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# VETERINARIAN'S HANDBOOK OF MATERIA MEDICA AND THERAPEUTICS

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# VETERINARIAN'S HANDBOOK OF MATERIA MEDICA AND THERAPEUTICS

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# VETERINARIAN'S HANDBOOK OF MATERIA MEDICA AND THERAPEUTICS

BY

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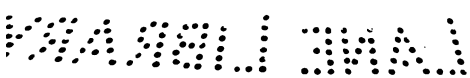

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## PREFACE TO THE SECOND EDITION

In the preparation of a second edition of this handbook, a thorough revision of its contents has been made to meet the changing conditions of veterinary practice.

It is gratifying to know that the book has performed a useful service, and that its continuation is assured. The author has found pleasure in formulating numerous minor details of the art of practice. This has been a partial compensation for some of the embarrassments of earlier experience, born of ignorance of such details. In the absence of a fair degree of skill in minor matters, practice soon ceases to be attractive.

The general plan of the first edition has been followed. Changes in the text are numerous without any essential change in size. Appreciation for numerous suggestions from veterinarians who have had occasion to refer to its pages is hereby acknowledged.

D. H. UDALL.

Ithaca, N. Y.

54746

# PREFACE

The writer of this handbook has attempted to condense in pocket-book size information frequently desired by the veterinarian. The contents are compiled from the writer's experience, and from the most recent and authoritative sources in veterinary science.

Corrections of errors, or suggestions in regard to omissions or additions will be gratefully acknowledged.

The list of typographical and other errors has been materially reduced by the assistance of Dr. C. P. Fitch in reading and correcting proof, for which the writer desires to express his appreciation and thanks.

D. H. UDALL.

Ithaca, N. Y., May 1912.

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**Abbreviations.**

C stands for cattle, H for horse, Sh for sheep, Sw for swine. Drugs marked with a star (*) are non-official. N. F. = National Formulary. U. S. P. = United States Pharmacopœia. B. P. = British Pharmacopœia. G. P. = German Pharmacopœia. V. K. = Veterinär-Kalender—Rautenberg.

# 1. Weights and Measures.

## Tables of Equivalents.

### Apothecaries' Weights.

| | | | | |
|---|---|---|---|---|
| gr. = grain | = 0.06479 | gm. = | 0.065 | estimate |
| ʒ = dram | = 3.885 | gm. = | 4. | estimate |
| ℥ = ounce | = 31.1035 | gm. = | 30. | estimate |

### Apothecaries' Fluid.

| | | | |
|---|---|---|---|
| ♏ = minim | = 0.06161 | cc. = | 0.06 |
| f ʒ = fluidram | = 3.75 | cc. = | 4. |
| f ℥ = fluidounce | = 29.5737 | cc. = | 30.00 |
| O = pint (octarius) | = 473.179 | cc. = | 500.00 |
| C = gallon (congius) | = 3785.432 | cc. = | 4000.00 |

### Metric Weights.

| | | | |
|---|---|---|---|
| mg. = milligram | = 0.001 | gm. = | 0.0154 gr. |
| cg. = centigram | = 0.01 | gm. = | 0.1543 gr. |
| dg. = decigram | = 0.1 | gm. = | 1.5432 gr. |
| Gm. = gram | = 1.0 | gm. = | 15.4323 gr. |
| Kg. = kilogram | = 1000.0 | gm. = | 2.68 lb. apoth. |
| Kg. = | | | 2.2 lb. avoir. |

### Metric Fluid Measure.

| | | |
|---|---|---|
| cc. = cu. centimeter | = 1.0 cc. | = 16.23 ♏. |
| cl. = centiliter | = 10.0 cc. | = 0.338 f ℥ |
| dl. = deciliter | = 100.0 cc. | = 3.382 f ℥ |
| L. = liter | = 1000.0 cc. | = 33.824 f ℥ |

1 teaspoonful = f3 1 1/3
1 dessertspoonful = f3 2 1/2
1 tablespoonful = f3 4
1 teacupful = f℥ 4

1 f3 = 60 ♏. = 57.049 gr.
1 f℥ = 480 ♏. = 456.392 gr.
1 O = 7680 ♏. = 7300. gr.
1 C = 61440 ♏. = 58400. gr.
1 C = 231 cu. in.

1 lb. apoth. = 5760 gr.
1 ℥ apoth. = 480 gr.
1 ʒ apoth. = 60 gr.
1 lb. avoir. = 7000 gr.
1 oz. avoir. = 437½ gr.

### Apothecaries' (Wine) Measure.

60 ♏. = 1 f3 = 4 cc. approximate
8 f3 = 1 f℥ = 30 cc. approximate
16 f℥ = 1 O. = 500 cc. approximate
8 O = 1 C. = 4000 cc. approximate

### Apothecaries' Weight.

60 gr. = 1 ʒ = 4 gm. approximate
8 ʒ = 1 ℥ = 30 gm. approximate
12 ℥ = 1 lb. = 372 gm. approximate
16 ℥ = 500 gm. approximate

### Imperial Measure.

60 ♏. = 1 f3 = 3.5 cc.
8 f3 = 1 f℥ = 28.39 cc.
20 f℥ = 1 O. = 567.93 cc.
8 O. = 1 C. = 4543.87 cc.

## Solution Table.

To estimate the weight in grains of the drug required to make a solution of a given percentage, multiply the weight in grains of the solvent by the per cent desired.

1 f℥ water at 4 C. = 456.39 grains.

| | | | | | |
|---|---|---|---|---|---|
| To make 1 f℥ of | a | 0.1% | (1:1000) sol. add | 0.456 | grs. |
| To make 1 f℥ of | a | 0.2% | (1:500 ) sol. add | 0.91 | grs. |
| To make 1 f℥ of | a | 0.3% | (1:333 ) sol. add | 1.37 | grs. |
| To make 1 f℥ of | a | 0.4% | (1:250 ) sol. add | 1.82 | grs. |
| To make 1 f℥ of | a | 0.5% | (1:200 ) sol. add | 2.28 | grs. |
| To make 1 f℥ of | a | 0.6% | (1:166 ) sol. add | 2.73 | grs. |
| To make 1 f℥ of | a | 0.7% | (1:143 ) sol. add | 3.19 | grs. |
| To make 1 f℥ of | an | 0.8% | (1:125 ) sol. add | 3.65 | grs. |
| To make 1 f℥ of | a | 0.9% | (1:111 ) sol. add | 4.1 | grs. |
| To make 1 f℥ of | a | 1. % | (1:100 ) sol. add | 4.56 | grs. |
| To make 1 f℥ of | a | 2. % | (1:50 ) sol. add | 9.12 | grs. |
| To make 1 f℥ of | a | 3. % | (1:33 ) sol. add | 13.7 | grs. |
| To make 1 f℥ of | a | 4. % | (1:25 ) sol. add | 18.25 | grs. |
| To make 1 f℥ of | a | 5. % | (1:20 ) sol. add | 22.8 | grs. |
| To make 1 f℥ of | a | 6. % | (1:16 ) sol. add | 27.38 | grs. |
| To make 1 f℥ of | a | 7. % | (1:13 ) sol. add | 31.94 | grs. |
| To make 1 f℥ of | an | 8. % | (1:12.5 ) sol. add | 36.50 | grs. |
| To make 1 f℥ of | a | 9. % | (1:11 ) sol. add | 41.06 | grs. |
| To make 1 f℥ of | a | 10. % | (1:10 ) sol. add | 45.64 | grs. |

## 2. Table of Solubilities, at 25 Centigrade.

| One part is soluble in | water | alcohol |
|---|---|---|
| Acetanilidum | 179 (18. boiling) | 2.5 |
| Acetphenetidinum (Phenacetin) | 925 | 12.0 |
| Acidum Acetyl-salicylicum (Aspirin) | 100 | soluble |
| Acidum Benzoicum (sol. in oils) | 281 | 1.8 |
| Acidum Boricum | 18 (4.3 boiling) | 15.3 |
| Acidum Chromicum | freely | —— |
| Acidum Picricum | sparingly | freely |
| Acidum Salicylicum | 308 (14 boiling) | 2.0 |
| Acidum Tannicum | 0.34 | 0.23 |
| Acidum Tartaricum | 0.71 | 1.67 |
| Aconitina | 3200 | 22.0 |
| Aconitine Sulphate, amorphous | soluble | soluble |
| Alumen | 9.0 | insoluble |
| Alumen Exsiccatum | 17.0 | insoluble |
| Alypin | soluble | soluble |
| Ammonii Carbonas | 4.0 | |
| Ammonii Chloridum | 2.0 | 50.0 |
| Antimonii et Potassii Tartras | 15.5 (3 boiling) | insoluble |
| Antipyrina | less than 1 | 1.0 |

| One part is soluble in | water | alcohol |
|---|---|---|
| Apomorphinae Hydrochloridum | 39.5 | 38.2 |
| Arecolin Hydrobromide | soluble | |
| Argenti Nitras | 0.54 | 24.0 |
| Arseni Trioxidum | 15.0 | |
| | boiling | |
| Freely in acid hydrochloric, or potassium carbonate solution. | | |
| Atoxyl | soluble | |
| Atropinae Sulphas | 0.38 | 3.7 |
| Balsamum Peruvianum | insoluble | 5.0 |
| Barium Chlorid | 2.5 | insoluble |
| Betanaphthol | 950.0 | 0.61 |
| Bismuth Subnitras | insoluble | insoluble |
| Caffeina | 45.6 | 53.2 |
| Caffeinae Sodio-salicylatas | 2.0 | |
| Calx | 760.0 | insoluble |
| Camphora (readily sol. in oil) | insoluble | freely |
| Chloralum Hydratum | freely | freely |
| Chloretone | sparingly | freely |
| Cocainae Hydrochloridum | 0.4 | 2.6 |
| Codeina | 88.0 | 1.6 |
| Codeinae Sulphas | 30.0 | 1033.0 |
| Creolin | 40.0 | freely |
| Creosotum | 120.0 (hot) | freely |
| Cresol | 60.0 | |
| Cupri Sulphas | 2.2 | 400.0 |
| Digitalin (German) | soluble | |
| Ergot, Extract (Squibb) (4 cold water) | soluble | |

| One part is soluble in | water | alcohol |
|---|---|---|
| Ferri Chloridum | freely | freely |
| Ferri Citras | slowly (freely in hot) | insoluble |
| Ferri Sulphas | 0.9 (0.3 boiling) | insoluble |
| Guaiacol | 53.0 | freely |
| Homatropinae Hydrobromidum | 5.7 | 32.5 |
| Heroin (sol. in acidulated liquids) | insoluble | |
| Heroin Hydrochlorid | 2.0 | |
| Hydrargyri Chlor. Corro. (add salt to prevent precipitation of albumen) | 13.0 (2 boiling) | 3.0 |
| Hydrargyri Chlor. Mite | insoluble | insoluble |
| Hydrargyri Iodidum Rub. (freely soluble in potassium iodid solutions) | insoluble | 116.0 |
| Hyoscinae Hydrobromidum | 1.5 | 16.0 |
| Hyoscinae Sulphas | freely | 6.4 |
| Ichthyol (miscible with oils and glycerin) | soluble | |
| Ichthargan | freely | freely |
| Iodoformum (sol. in 5.2 ether) | insoluble | 46.7 |
| Iodum (readily in petrox liq.) | 5000.0 | 10.0 |
| Liquor Cresolis Comp. | soluble | soluble |
| Magnesii Sulphas (Epsom Salt) | 1.85 | insoluble |
| Menthol | freely | freely |

| One part is soluble in | water | alcohol |
|---|---|---|
| Morphinae Hydrochloridum | 17.2 | 42.0 |
| Morphinae Sulphas | 15.3 | 465.0 |
| Naphthalinum (very soluble in oils) | insoluble | 13.0 |
| Phenol | 19.6 | freely |
| Phenol Liquefactum (miscible with oils and glycerin in all proportions) | 12.0 | |
| Phosphorus (sol. in 50 parts fatty oil) | insoluble | insoluble |
| Phenylis Salicylas (Salol) (sol. in oils) | 2333.0 | 5.0 |
| Physostigminae Salicylas | 72.5 | 12.7 |
| Physostigminae Sulphas | freely | freely |
| Pilocarpinae Hydrochloridum | 0.3 | 2.3 |
| Pix Liquida (soluble in oils or solutions of sod. hydroxid) | slightly | soluble |
| Plumbi Acetas | 2.0 | 30.0 |
| Potassii Acetas | 0.4 | 2.0 |
| Potassii Bicarbonas | 3.0 | insoluble |
| Potassii Bitartras | 200.0 (16.7 boiling) | insoluble |
| Potassii Bromidum | 1.5 | 180.0 |
| Potassii Carbonas | 0.91 | insoluble |
| Potassii Chloras | 16.0 (1.7 boiling) | slightly |
| Potassii Dichromas | 9.0 | |
| Potassii Hydroxidum | 1.5 boiling | insoluble |
| Potassii Iodidum | 0.4 | 2.0 |
| Potassii Nitras | 0.7 | 12.0 |

| One part is soluble in | water | alcohol |
|---|---|---|
| Potassii Permanganas | 3.6 | sparingly |
| Potassii Picras | 230.0 | —— |
| Protargol (slowly in 2.5 cold water) | | —— |
| Pyoktanin (30 boil., 50 hot, 75 cold water) | | 12.0 |
| Pyrogallol | 1.6 | 1.0 |
| Quininae Hydrochloridum | 18.0 | 0.6 |
| Quininae Sulphas (acids increase solubility in water) | 720.0 | 86.0 |
| Resorcinol | 0.5 | freely |
| Saccharum | 0.46 | 137.2 |
| Saccharum Lactis | 4.79 | |
| Sodii Acetas | 1.0 | 23.0 |
| Sodii Bicarbonas | 12.0 | —— |
| Sodii Boras (Borax) | 20.4 | insoluble |
| Sodii Bromidum | 1.7 | 12.5 |
| Sodii Chloridum | 2.8 | insoluble |
| Sodii Hydroxidum | 1.0 | very |
| Sodii Nitras | 1.4 | slightly |
| Sodii Phenolsulphonas | 4.8 | 130.0 |
| Sodii Salicylas | 0.8 | 5.5 |
| Sodii Sulphas (Glauber's Salt) | 2.8 | |
| Sparteinae Sulphas | 1.1 | 2.4 |
| Strychninae Sulphas | 31.0 | 65.0 |
| Terpini Hydras. | 200.0 | 10.0 |
| Tricresol | 40.0 | |
| Veratrin Sulphate | freely | |
| Zinci Acetas | 2.5 | 36.0 |
| Zinci Chloridum | 0.4 | freely |
| Zinci Phenolsulphonas | 1.7 | |
| Zinci Sulphas | 0.53 | insoluble |

## 3. Representative Formulas.

### Simple Powder.

℞ 1
Antimonii et potassii tartratis 3 iv.
Sig. Dissolve in a pail of water; give 1/3 at 6, 7, and 8 a.m. before feeding or watering for a horse with stomach worms.

### Mixed Powder

℞ 2
Sal Carolini factitii
Nucis vomicae aa ʒ viii
Arseni trioxidi 3 iii.
M. Sig. Tablespoonful thrice daily for a horse with intestinal catarrh or oxyuriasis.

### Divided Powder.

℞ 3
Antimonii et potassii tartratis 3 x
Glycyrrhizae
Juniperi
Ammonii chloridi aa ʒ iiss
M. Ft. chartulae No. x.
Sig. One powder 2-3 times daily as expectorant for a horse.

### Solution.

℞ 4
Liq. acidi arsenosi
Liq. strychninae (1%) aa ʒ viii.
M. Sig. Tablespoonful 2-3 times daily as a tonic for a horse or cow.

### Capsules.

℞ 5
Oleoresinae aspidii 3 i.
Ft. capsulae No. x.
Sig. Give all at one dose for a large dog with tape-worms.

### Keratin Coating.

℞ 6
Kamalae 3 iiss
Seminis arecae 3 v
Olei theobromatis q.s.
et fiant pilulae No. xxv.
Obduce keratino.
Sig. 6-15 pills for a dog with tape-worm (Schiel).

### Electuary.

℞ 7

Sal Carolini factitii ℥ viii
Althaeae ℥ iii
Aquae com. q.s. electuarium.
Sig. Give on the tongue with a paddle.

### Bolus

℞ 8

Nucis vomicae 3 v
Zingiberis ℥ i
Hydrargyri chloridi mite 3 iv
Aloini ℥ ii
Glyceriti amyli q.s. massa.
Ft. boli iv.
Sig. Physic balls.

### Decocta (Decoction).

℞ 9

Pour 20 parts cold water on 1 part drug; cover and boil 15 minutes; cool, strain, and add amount of water lost by evaporation.

### Infusa (Infusion).

℞ 10

Pour 20 parts boiling water on 1 part drug; let stand ½ hour in a tight vessel in a warm place; strain and add amount of water lost by evaporation.

### Demulcent.

℞ 11

Pour 20 parts cold water on 1 part drug (linseed); shake often during ½ hour; decant, or strain through coarse muslin.

### Emulsion.

℞ 12

Oil 2 (olive, linseed, cottonseed), Acacia 1, water 17.

### Liniment.

℞ 13

Aquae ammoniae 30.
Olei camphorati 70.
M.

### Ointment.

℞ 14

Iodi gr. x-xx
Iodoformi 3 i-ii
Petroloxolini spissi N. F.
Adipis aa ℥ i.

## 4. Descriptions, Uses, and Dosage of Drugs.

**Acacia** (Gum Arabic). **Intern.**, protectant in gastro-enteritis, diarrhea, poisons; expectorant in respiratory catarrh. **Extern.**, hemostatic; clyster in proctitis. PREPARATIONS: *Mucilago. Syrupus.* Used in emulsions, electuaries, pills and powders.

**Acetanilidum** (Antifebrin). Soluble in 180 parts water, 2.5 alcohol. **Intern.**, very high fevers only. Daily dose: **H. & C.** ʒ 1-2 (30.-60.); Sh. & Sw. 3 2-3 (8.-12.); D. gr. 15-30 (1.-2.0). In pills, electuary, or suspension. **Extern.**, antiseptic powder on wounds, etc.

**Acetphenetidinum** (Phenacetin). Antipyretic and analgesic. Said to be safer than acetanilid or antipyrin, most satisfactory of the coal-tar products. Sedative in dog distemper, painful cough, etc. **H. & C.** 3 2½-5 (10.-20.); D. gr. 3-15 (0.2-1.).

* **Acetum** (Vinegar). 4-6% absolute acetic acid. **Extern.**, fomentation and hot compress for phlegmons, parasiticide for lice (destroys eggs), clysters in oxyurus (1%). **Intern.**, cooling, relieves thirst, antidote for caustic alkalies. **H. & C.** ʒ 3-8 (100.-240.); Sh. & Sw. ʒ 1-2 (25.-50.).

℞

Arseni trioxidi
Pot. carbonatis aa ʒ i
Aceti et aq. aa q.s. O i.
M. Ft. sol.

Sig. Viborg's arsenical vinegar for lice and mange (poison). Do not use more than a pint at a time on a horse.

**Acidum Aceticum** (Acetic Acid). 36% absolute acid. **Extern.**, warts.

* See p. vi, abbreviations.

**Acidum Aceticum Dilutum.** 6% absolute acid. Use and dose as acetum.

***Acidum Acetyl-salicylicum** (Aspirin). Substitute for salol and salicylates. Derivative of salicylic acid; antipyretic and analgesic. Used in equine influenza, straining due to vaginal or uterine irritation in cows, painful mastitis, etc. H. 3 3-4 (10.15.); D. gr. 5-15 (0.3-1.). Two to three times daily.

| ℞ 1 | | ℞ 2 | |
|---|---|---|---|
| Aspirini | ʒ i | Aspirini | |
| Sacchari | ʒ ii | Sacchari | aa gr. xxx |
| M. Ft. chart. iv. | | M. Ft. chart. vi. | |
| Sig. Two powders daily for dog with rheumatism (v.k.). | | Sig. Three powders daily for dog with distemper (v.k.). | |

**Acidum Arsenosum** cf arseni trioxidum.

**Acidum Boricum** (Boric Acid). Soluble in 18 parts water. **Extern.**, conjunctivitis, otitis, general antiseptic for cats. 4% aqueous solution of tablets. Antiseptic powder. **Intern.**, fermentation, gastro-enteritis, cystitis. H. & C. ʒ ½-1 (15.-30.); Sh. & Sw. 3 ½-1 (2.-4.); D. gr. 15-45 (1.-3.).

| ℞ 1 | | ℞ 2 | |
|---|---|---|---|
| Acidi borici | gr. xl | Acidi borici | gr. xv |
| Cocainae hydrochloridi | gr. ii | Cocainae hydrochloridi | gr. xv |
| Aquae destil. | ʒ ii | Phenolis liq. | ♏ iv |
| M. Ft. sol. | | Glycerini | |
| Sig. For conjunctivitis. | | Aq. destil. aa | ʒ i |
| | | M. Ft. sol. Sig. A few drops in the ear of a dog with painful otitis media. | |

Prep: **Pulvis Antisepticus N.F.* Salicylic acid 5, phenol 1, eucalyptol 1, menthol 1, thymol 1, zinc sulphate 125, boric acid 865.

**Acidum Carbolicum** cf phenol.

***Acidum Carbolicum Crudum** (Crude Phenol; Crude Cresol). Partly soluble in water (1:50-200), **Stable disinfectant:** mix with equal parts crude sulphuric acid and use in 5% aqueous solution. **Extern.,** mix with ½-1 part green soap for active disinfectant. 1% in mange, etc.—cheap substitute for liquor cresolis comp.

℞
Acidi carbol. crud. 15.
Sapo mollis 100.
M. Sig. Apply to scratches and bandage (Reinhardt).

***Acidum Chromicum** (Chromic Acid). **Extern.,** caustic in grease, canker, and tumors; as ointment, paste, or solution (1:10 to concentrated). Used by Fröhner in chronic eczematous and verrucose scratches (grease) as single application of 10% sol. Harness and saddle eczema in 2-5% solution or ointment.

**Acidum Hydrochloricum** (Muriatic Acid). 31.9% HCl.

**Acidum Hydrochloricum Dilutum.** 10% HCl. **Intern.,** digestant in chronic indigestion, gastro-intestinal catarrh, licking disease, depraved appetite. **H. & C.** ʒ ½-1 (15.-30.); **Sh. & Sw.** 3 ½-1 (2.-5.); **D.** ♏. 2-6 (0.12-0.35). In drinking water, well diluted and sprinkled on the hay, or per os very dilute.

℞ 1
Acidi hydrochlorici dil. ʒ iv.
Sig. Tablespoonful in a quart of water every three hours for a cow with chronic indigestion.

℞ 2
Acidi hydrochlorici dil. 5
Aq. destil. 300.
Sig. One teaspoonful to a tablespoonful every three hours for a dog with distemper.

**Acidum Lacticum** (Lactic Acid). **Intern.,** antiferment in gastric tympany, chronic indigestion and diarrhea (calves). **H. & C.** 3 2-3 (8.-12.). In capsule or a pint of water. **Extern.,** mild caustic.

℞ 1

| | |
|---|---|
| Acidi lactici | ʒi |
| Syrupi | ʒii |
| Aq. com. q.s. | ℥vi. |

M. Sig. Tablespoonful every three hours for a dog with diarrhea(v.k.).

**Acidum Nitricum** (Nitric Acid). 68% $HNO_3$. Caustic in canker, warts, and small tumors. Ringworm in cattle (5% ointment).

**Acidum Oleicum** (Oleic Acid). Solvent for medicines to be absorbed from the skin. See petrox.

**Acidum Phosphoricum Dilutum.** 10% Phosphoric Acid. Stomachic in acute fevers, rachitis, and osteomalacia. Inferior to hydrochloric acid. **H. & C.** ℥ 1-2 (30.-60.); Sh. & Sw. 3 1-2 (5.-8.); D. ♏. 5-10 (0.3-0.6).

***Acidum Picricum** (Picric Acid). **Intern.,** strongylosis and taeniasis in sheep and lambs. Sh. gr. 1-3 (0.1-0.2) in mucilaginous drench. Caustic poison. **Extern.,** desiccant antiseptic in moist eczema, lymphangitis, rope burns, burns, otorrhea, scratches. Use in 1-6% solution of alcohol and water.

**Acidum Salicylicum.** Soluble in 300 parts water, 2 alcohol. **Intern.,** gastric and intestinal fermentation, diarrhea in young, cystitis, specific in acute rheumatism. Daily dose: **H.** ℥ 3 (100); **C.** ℥ 5 (150); Sh. Sw and Calf 3 2-3 (8.-12.); D. 3 ½-4 (2.-15.). **Extern.,** antiseptic powder (1:20-50 starch); 5% alco-

holic solution, or ointment, in mastitis, ringworm, and otitis; 15% ointment in warts, and corns (man).

℞ 1
Acidi salicylici 3 i
Alcoholis q.s. solut.
Adipis 3 iii.
M. Ft. unguent.
Sig. Externally in mastitis (Fröhner).

℞ 2
Acidi salicylici
Acidi tannici aa 3 i.
M. chart. No. viii.
Sig. One powder in eight ounces linseed water for diarrhea in calf.

℞ 3
Acidi salicylici 3
Amyli 70
Talci 27.
M. Sig. Desiccant.

**Acidum Sulphuricum.** 92.5% $H_2SO_4$. **Extern.,** caustic.

***Acidum Sulphuricum Crudum** (Oil of Vitriol). Mix with equal parts phenol and use in 5% solution for disinfecting stables, etc.

**Acidum Sulphuricum Dilutum.** 10% $H_2SO_4$. **Intern.,** as dilute hydrochloric acid. **H. & C.** 3 4 (15.).

**Acidum Tannicum** (Tannic Acid). Soluble in 1 part water or alcohol, 3 parts glycerin. **Extern.,** antiseptic powder (firm scab), astringent, hemostatic; 10% ointment in moist eczema, otorrhea, and ulcers. **Intern.,** styptic in diarrhea, cystitis, poisoning with metallic salts and alkaloids. **H. & C.** 3 1-6 (5.-25.); Sh. & Sw. 3 ½-1 (2.-5.); D. gr. 2-7 (0.1-0.5).

℞ 1
Cupri sulphatis 3 iii
Alumenis 3 ii
Acidi tannici 3 iss
Camphorae 3 iiss
Carbo ligni 3 i.
M. Antiseptic powder for wounds.

℞ 2
Acidi tannici 2.5
Aq. destil 50.
Alcohol q.s. 100.
M. (Joseph).
For acne or seborrhea.

℞ 3
Hydrargyri chlor. corrosiv. gr. viiss
Alcoholis ʒ iv
Aquae ʒ xii
Acidi tannici q.s. sat. sol.
M. Sig. Apply twice daily to harness galls.

**Aconitum** (Aconite). Root of Aconitum Napellus. ½% aconitin. **Intern.**, circulatory depressant and vasodilator in first stages of acute fever. Use with caution and only for a short time in vigorous animals. Give the tinct. every 1-2 hours in small doses. **H. & C.** gr. 5-15 (0.3-1.); Sh. & Sw. gr. 1/5-2 (0.013-0.13); D. gr. 1/10-1 (0.006-0.06). PREPARATIONS: *Fluidextractum Aconiti.* .4% aconitin. Dose: as root. *Tinctura Aconiti.* .045% aconitin. H. & C. 3 1-2 (4.-8.); Sh. & Sw. ♏. 5-10 (0.3-0.6); D. ♏. 1-2 (0.06-0.13). *Aconitina* (Aconitin). Crystal alkaloid. Very toxic. Soluble in dilute alcohol. **H. & C.** gr. 1/80-1/25. *****"*Aconitin*". Commercial; amorphous. A weaker mixture of alkaloids; strength widely variable. Caution.

℞ 1
Ticturae aconiti ʒ viii
F. E. belladonnae ʒ v
Alcoholis dil. q.s. ℥ ii.
M. Sig. One dram every two hours for a horse with congestion of the lungs.

***Acriflavine.** Coal tar derivative. An active non-irritating antiseptic effective in the presence of serum. Used in 1:1000 aqueous solution or physiological salt solution for persistent metritis in cows, any suppurative condition, or in fresh wounds. Also recommended for injection into the udder in mastitis (1:2000).

**Adeps** (Lard). Internal fat of abdomen of hog. Basis for ointments. PREP: *Olcum Adipis* (Lard Oil).

**Adeps Benzoinatus** (adeps 100, benzoin 20). A better base for ointments than lard, add 5% white wax for warm weather.

**Adeps Lanae** (Wool-fat).

**Adeps Lanae Hydrosus** (Hydrous Wool-fat). Wool-fat 70, water 30. Basis for ointments, keeps well, rapidly resorbed. Official substitute for lanolin.

***Adrenalin.** A proprietary name for epinephrine cf suprarenalum siccum.

**Aether** (Sulphuric Ether). 96% Ethyl Oxid. **Intern.,** stimulant in cerebral depression. Dose per os: **H. & C.** ʒ ½-1 (15.-30.); Sh. & Sw. 3 1-2 (5.-8.); D. ♏. 8-15 (0.5-1.). Stimulant per subcutis (?): **H. & C.** 3 1 (5.). Antispasmodic for horse per rectum in colic: put 1-2 ounces of ether in a bottle, connect the rectum and the mouth of the bottle with rubber tubing, place the bottle in a pail of warm water. Recommended for injection into the teat canal in mastitis.

| ℞ 1 | | ℞ 2 |
|---|---|---|
| Aetheris | ʒi | Aetheris |
| Ol. ricini | O i. | Ol. terebinthinae aa ʒi |
| M. Drench for a horse with spasmodic colic. | | Spiritus camphorae ʒiv. M. Stimulating liniment. |

***Airol** cf bismuthi iodosubgallas.

**Alcohol.** 92%. **Intern.,** stimulant in collapse, narcotic poisoning, snake bites, chills, exposure; antipyretic in large doses in septicemia and pyemia. Stimulant: **H. & C.** ʒ 1-2 (30.-60.); Sh. & Sw. 3 3-5 (12.-20.); D. 3 ½-1 (2.-5.). Antipyretic: increase the dose four times and give every 2 hours. PREPARA-

TIONS: *Alcohol Dilutum* 41%; *Spiritus Frumenti* (Whiskey) 37-47%; *Spiritus Vini Gallici* (Brandy) 39-47% alcohol. **Extern.**, resorbent and antiseptic in phlegmons, contusions, skin necrosis, harness galls, gangrenous dermatitis, sprains, fresh joint perforations (firing), acute tendinitis and periostitis; in form of alcohol bandage (Frick): Cover the part with 1-2 layers of cotton; fix with gauze bandage; saturate with alcohol 92%, or denatured; enclose in impervious material (rubber sheeting, paraffin paper); and cover with woollen or flannel bandage; pour alcohol beneath the impervious covering three times daily; change every 2-3 days. Antiseptic (50%).

**Aloe** (Aloes; Barbadoes Aloes). **Purgative: H.** ʒ 1-1½ (30.-45.); C. ʒ 1-2 (30.-60.); Sh. ʒ 2½-4 (10.-15.); Sw. ʒ 1-2½ (5.-10.); D. gr. 30-60 (2.-4.). **Stomachic: H. & C.** ʒ ½-3 (2.-12.); Sh. ʒ ½-1 (2.-4.); Sw. gr. 15-30 (1.-2.); D. gr. 1-8 (0.065-0.5). In pills, electuary, or suspension.

℞ 1
Aloes
Veratri aa ʒ iiss.
M. Give in a pint of water for a cow with chronic indigestion (Fröhner).

℞ 2
Antimonii et potassii tart. ʒ i
Aloes ʒ iss
Sodii sulphatis ʒ xvi.
M. For a cow with persistent chronic indigestion.

℞ 3
Aloes ʒ i
Sapo mollis
q.s. boli.
M. Sig. For a horse with colic.

**Aloinum** (Aloin). Active principle of aloes. **H. & C.** ʒ 2-4 (8.-15.); Sh. & Sw. gr. 10-30 (0.65-2.); D. gr. 1-5 (0.06-0.3).

℞
Nucis vomicae ʒ v
Zingiberis ʒ vi
Hydrarg. chlor. mite ʒ v
Aloini ʒ ii
Glyceriti amyli q.s. massa.
M. Ft. boli. No. iv.
Sig. Physic balls.

**Alumen** (Alum; Crude Alum; $AlK(SO_4)_2 + 12 H_2O$). **Extern.**, antiseptic powder on wounds (irritating); astringent and disinfectant on mucous membranes—stomatitis, conjunctivitis, vaginitis, metritis. 2-5% aqueous solution, or with lead acetate to form Burrow's solution. (**Liquor Alumini Acetatis* N. F.).

| ℞ 1 | | ℞ 2 | | |
|---|---|---|---|---|
| Alumenis | ʒ v | Acidi tannici | | 50 |
| Plumbi acetatis | ʒ i | Acidi borici | | |
| Aq. com. | ʒ xii. | Alumenis | aa | 100. |
| M. Burrow's solution. | | M. | | |

**Alumen Exsiccatum** (Burnt Alum; $AlK(SO_4)_2$). Styptic and antiseptic powder.

***Alypinum** (Alypin). Synthetic preparation closely related to stovaine; soluble white powd. Use like cocain for anesthesia, effect twice as rapid and non-toxic, continues about one hour. Parenchymatous infiltration 3%; eye operations 1%; perineural injection 1-5 grains.

**Ammonia Water** cf aqua ammonia.

***Ammoniacum** (Gum Ammoniac). Combined with 2 parts gutta percha under heat to form Defay's hoof cement.

**Ammonii Carbonas** (Ammonium Carbonate). Soluble in 5 parts water. Antacid in colic and tym-

pany; circulatory and respiratory stimulant and stimulating expectorant in pneumonia, bronchitis, emphysema; useful in collapse (colic, paresis of rumen, heart failure, pneumonia). **C.** ʒ½-1½ (15.-45.); **H.** 3 2½-6 (10.-25.); Sh. & Sw. gr. 15-30 (1.-2.); D. gr. 7-15 (0.5-1.). Give every 2 hours in electuary, bolus, or mucilaginous fluid.

**Ammonii Chloridum** (Ammonium Chlorid). Soluble in 3 parts water. **Intern.**, expectorant in latter stages of bronchial catarrh, pneumonia, strangles. **H.** 3 2-4 (8.-15.); **C.** 3 4-8 (12.-25.); Sh. & Sw. 3 ½-1 (0.2-5.); D. gr. 3-15 (0.2-1.). **Extern.**, cooling and stimulating wash in contusions: ammonium chlorid 1, potassium nitrate 5, sodium sulphate 8, water 16.

℞ 1

Camphorae ʒi
Ammon. carb.
Ammon. chlor. aa ʒiv
Syrupi C i.
Dissolve camphor in chloroform, add to the syrup, then add the ammonia.
Sig. One ounce every two hours to four times daily as an expectorant.

℞ 2

Ammonii chloridi ʒi
Anisi ʒi
Sal. Carolini fac. ʒviii
Glycyrrhizae et aquae q.s. electuarii.
Sig. Give about an ounce on the tongue several times daily.

**Amylis Nitris** (Amyl Nitrite). Not practical for animals. See Spiritus Glycerylis Nitratis.

**Amylum** (Corn Starch). Desiccant powder alone, or with zinc oxid, acid salicylic, menthol, bismuth (10:1) in moist eczema, chafing, etc. PREP: *Glyceritum Amyli.*

**Anisum** (Anise; Aniseed). **Intern.**, carminative, expectorant, stomachic, improves taste of medicine. **H. & C.** ʒ ½-2 (15.-60.); Sh. & Sw. 3 1-3 (5.-10.); D.

♏. 1-5 of anise oil. **Extern.,** oil of anise for lice, mites, fleas.

**Anti-Anthrax Serum** cf serum.

**Antifebrin** cf acetanilid.

**Antimonii et Potassii Tartras** (Tartar Emetic). **Intern.,** promotes rumination, laxative, anthelmintic. **H.** 3 ½-5 (2.-20.); **C.** 3 3-5 (12.-20.); **Sh. & Sw.** gr. 8-30 (0.5-2.); **D.** gr. ¾-1½ (0.05-0.1). Sedative expectorant in dry stage of bronchitis, laryngitis, etc., in one-fifth the above dose. See ℞ 3, pg. 9.

℞ 1
Antimonii et potassii tartratis 3 iv-v.
Sig. Dissolve in a pail of water; give 1/3 at 6 a. m., at 7 a. m., and at 8 a. m. before feeding, for a horse with stomach worms (Grimme).

℞ 2
Heroini gr. viii
F. E. hyoscyami or belladonnae ℥ i
Ant. et potassii tart. 3 iv
Syrupi q.s. O i.
Sig. One ounce every two hours for a horse with acute bronchitis.

℞ 3
Ant. et potassii tart. 3 ii
Ammonii chloridi 3 iv.
M. Ft. chart. No. ii.
Sig. One powder night and morning in drinking water (v.k.).

℞ 4
Antimonii et potassii tart. ℥ i
Sal Carolini factitii ℥ xii
Anisi
Glycyrrhizae aa ℥ i.
Althaeae et aquae
q.s. electuarii.
M. Sig. Paddleful on tongue several times daily (v.k.).

***Antimonii Sulphidum Purificatum** (Black Antimony). Expectorant and tonic. **H. & C.** 3 2½-6

(10.-2b.); Sh. & Sw. gr. 30-75 (2.-5.); D. gr. 1-10 (0.065-0.6).

***Antimonium Sulphuratum** (Yellow Antimony). Use and dosage as black antimony.

***Antimony Trichlorid** (Butter of Antimony). Caustic: household remedy in thrush and foot-rot. Dilute with 3-4 parts tincture of myrrh. Obsolete.

***Antiperiostin.** A 30% solution of hydrargyri iodidi rubri in tincture of cantharides (Fröhner).

***Antiphlogistin** cf cataplasma kaolini.

**Antipyrina** (Antipyrin). Soluble in water. Febrifuge, similar to acetanilid. Specific in acute muscular and articular rheumatism in dogs. Expensive. H. & C. 3 4-5 (15.-20.); Sh. & Sw. 3 1-2 (4.-8.); D. gr. 4-45 (0.25-3.). Gr. 7½-30 in 2-5 cc. water per subcutis as a febrifuge for a dog.

**Apomorphinae Hydrochloridum** (Apomorphin Hydrochlorid). Intern., expectorant in dogs in small doses, gr. 1/60-1/20 (0.001-0.003) per os every two to three hours. Emetic: D. gr. 1/30-1/6 (0.002-0.01); Cat, gr. 1/3-3/4 (0.02-0.05). Administer per subcutis. Wool-eating in sheep and licking disease in cattle. Recommended for relief of choke in large animals, gr. ½-¾. Deteriorates, expensive.

| ℞ 1 Permanent solution. | ℞ 2 |
|---|---|
| Apomorphinae hydrochloridi gr. iii | Apomorphinae hydrochlor. gr. viii |
| Solve in aq. destil. ʒv | Aq. destil. ʒi. |
| Ad. acid. hydrochlorici ♏. ii. | M. Sig. 5 cc. daily for cow with licking disease (Fröhner). |
| M. 1% apomorphin solution for subcutaneous use. | |

℞ 3
Apomorphinae hydrochloridi gr. 1/6
Glycerini ʒ iiss
Aquae destil. ʒ iii.
M. Ft. sol. Sig. Teaspoonful thrice daily for a dog with bronchitis.

***Aposthesine.** A synthetic local anesthetic manufactured by Parke, Davis and Co. It is non-irritant, not injured by boiling, and is practically non-toxic. Efficient for injection, but relatively inactive on mucous membranes. Used in 1-2% sol.

**Aqua Ammoniae** (Ammonia Water). 10% $NH_3$. **Intern.,** antacid in tympanitis. **C.** ʒ ½-1 (15.-30.); Sh. & Sw. ♏. 15-30. Dilute with 50-100 parts water. Value doubtful, not safe. **Extern.,** 10% aqueous solution in snake and insect bites. Rubefacient cf linimentum.

**Aqua Ammoniae Fortior** (Stronger Ammonia Water). 28% $NH_3$.

**Aqua Amygdalae Amarae** (Bitter Almond Water). **Intern.,** sedative with morphin in cough; laryngeal injection in horses.

℞ 1
Morphinae sulphatis gr. ¾
Aq. amygdalae amarae ʒ iiss
Mucilagis acaciae ʒ ii.
M. Ft. sol.
Sig. Teaspoonful 3-4 times daily for dog with laryngitis and bronchitis.

℞ 2
Morphinae sulphatis gr. viii
Aq. amygdalae amarae ʒ iii.
M. Ft. sol.
Sig. Intratracheal injection of 10 cc. once or twice daily for horse with painful bronchitis.

***Areca** (Areca Nut). Vermifuge, especially in the dog. Expulsion of the worms occurs in 3-5 hours,

follow in 3 hours with a purgative unless expulsion has already taken place. Administer in capsules or keratin coating for dog, electuary or powder for a horse. **H. & C.** ʒ 3-8 (100.-250.); **Foals,** 3 2½-ʒ 2 (10.-60.); **D.** 3 1-2½ (5.-10.); **Cat,** 3 ½-1 (2.-5.).

| ℞ 1 | ℞ 2 |
|---|---|
| Arecae 3 iiss | Arecae 3 i |
| Olei theobromitis et cerae flavae q.s. massa. | Kamalae 3 iiss |
| M. Ft. pilulae No. xx. | Olei theobromitis q.s. pilulae No. xxv. |
| Obduce keratino. | Sig. Give at one dose for a large dog with tape-worms (Fröhner). |
| Sig. Give at one dose for a dog with tape-worms (Fröhner). | |

***Arecolinum Hydrobromidum** (Arecolin Hydrobromid). **Intern.,** *laxative in acute laminitis and colic,* diuretic. Caution in heart weakness, old and weak animals. See arecovetrol. **H. & C.** gr. ½-1 (0.03-0.07) per subcutis. In indigestion repeat once or twice at intervals of 15-30 minutes. **Extern.,** myotic (½-1%), contraction begins in about 5 minutes.

***Arecovetrol.** Four capsules (A) each containing arecolin gr. 1½ and nux vomica; four capsules (B) each containing veratrin gr. 1½ and nux vomica. Alternate A and B every 2-3 hours in indigestion in cows; diagnostic in traumatic gastritis (condition becomes worse). Dose: alternate a capsule of A with a capsule of B every 2-3 hours; administer in a mucilaginous drench; 8 capsules constitute a treatment.

**Argenti Nitras** (Silver Nitrate). 99.9% $AgNO_3$. Soluble in 1 part water. **Intern.,** chronic gastric catarrh, chronic diarrhea. **H. & C.** gr. 5-15 (0.3-1.);

Sh. & Sw. gr. 2-3 (0.12-0.2); D. gr. 1/3-3/4 (0.02-0.05). Several times daily in solution, pill, glycerin, or clyster (0.1-1% aqueous solution in diarrhea). **Extern.**, conjunctivitis 1-2%; otorrhea 1-5%; wounds and burns 2-10%; stomatitis 10% applied to ulcers with cotton; keratitis 2%.

℞ 1
Argenti nitratis gr. 3-6
Aquae destil. ʒ v.
M. Sig. Eye antiseptic.

℞ 2
Argenti nitratis gr. viii
Alcoholis ℥ viii.
M. For otorrhea.

℞ 3
Argenti nitratis gr. viii
Aquae ℥ iii.
M. Sig. Tablespoonful every 3 hours for calf with diarrhea (Schleg).

℞ 4
Argenti nitratis ʒ iss
Kaolini ℥ vi
Aquae q.s. satis.
M. Ft. pilulae No. vii.
Sig. 2 pills daily for horse with diarrhea (Fröhner).

**Argenti Nitras Fusus** (Lunar Caustic). 94.8% $AgNO_3$ in cones or pencils. **Extern.**, caustic on unhealthy granulations, ulcers, etc.

***Argenti Nitras Mitigatus** (Mitigated Silver Nitrate). 33.3%. **Extern.**, in pencils or cones where pure lunar caustic is too strong (granular eye-lids).

***Argentum Colloidale** (Collargol). **Intern.**, purpura, strangles (gr. 7½: aqua 50 cc. per vein, Dieckerhoff); repeat every 2 hours in severe cases. Reports in general indicate unsatisfactory or even harmful results.

***Argilla** cf kaolin.

***Argyrol.** A protein preparation containing from 20 to 25% of silver; non-irritant. Used in 5-20% solutions for conjunctivitis. One of the most active organic silver compounds.

**Aristol** cf thymolis iodidum.

**Arnica.** Dried flower heads. PREP: *Tinctura Arnicae.* Stimulant in sprains and bruises, too irritating for broken skin. Intern., household remedy of doubtful value.

**Arseni Trioxidum** (Arsenic Trioxid; White Arsenic). $As_2O_3$. Intern., alterative and tonic in chronic intestinal catarrh, emaciation, chronic dyspnea, anemia, rachitis, osteomalacia; vermifuge; large doses for papillomatosis. Daily dose: H. & C. gr. 10-15 (0.6-1.); Sh. & Sw. gr. 1-2 (0.065-0.13); D. gr. 1/20-1/4 (0.003-0.016). As a vermifuge in horse the dose may be increased three times. PREPARATIONS: *Liquor Acidi Arsenosi.* 1% solution. *Liquor Potassii Arsenitis* (Fowler's Solution). 1% Solution H. & C. ʒ ½-2 (15.-60.); Colts 3 months, 1-2 tablespoonfuls per day; Sh. & Sw. ♏. 15-75 (1.-5.); D. ♏. 2-10 (0.13-0.6); Cats and Fowls, ♏. 1-2. *Atoxyl. An organic compound containing 25-35% arsenic; white powder. Intern., surra, dourine, nagana, infectious anemia, trypanosomes and spirochetes in general. Value doubtful. Dose per subcutis: 1/10 the 1% solutions of arsenic.

**Sodium Cacodylate.** Wh. Powd. Sol. in water. Action and uses like that of arsenic. Recommended for influenza, pneumonia, and other infections in the horse. Value doubtful. Dose per subcutis: H. gr. 30-50.

℞ 1
Sal Carolini factitii
Calcii hydroxidi
aa ʒ viii
Arseni trioxidi 3 iv.
M. Sig. Tablespoonful 2-3 times per day in feed for heaves.

℞ 2
Arseni trioxidi
Acaciae aa.
Aq. com. q.s. pasta.
M. Sig. For warts and small tumors.

℞ 3
Liq. acidi arsenosi
Liq. strychninae
(1%) aa ʒ v-vi
Tinct. ferri. chloridi ʒ ii-iv
Glycerini q.s. O i.
M. Sig. Tablespoonful 2-3 times daily as tonic for horse.

℞ 4
Sal Carolini factitii
Nucis vomicae
aa ʒ viii
Sinapis ʒ iv
Arseni trioxidi ʒ ii.
M. Sig. Tablespoonful thrice daily for bowel catarrh or rectal worms in a horse.

**Asafoetida** (Asafetida). **Intern.**, antispasmodic in colic and convulsions. **H. & C.** ʒ ½-1 (15.-30.); D. gr. 7½-30 (0.5-2.). **Extern.**, tincture to prevent feather pulling, licking bandages, etc.

℞
Tinct. asafoetidae
Tinct. valerianae
Spiritus aetheris aa ʒ iv.
M. Sig. Tablespoonful hourly in a bottle of water for a horse with spasmodic colic.

**Aspidium** (Filix Mas; Male Fern). The dried rhizome. Claimed to be our most useful remedy for tape-worm. **H. & C.** ʒ 3-8 (100.-250.); Sh. & Sw. ʒ 1-2 (30.-60.); D. ʒ 1-4 (5.-15.); Cat, gr. 15-30 (1.-2.). Administer in pill or electuary after a fast. PREP: *Oleoresina Aspidii.* Dose: D., large, ♏. 30-75 (2.-5.), small, ♏. 8-15 (0.5-1.); Cat, ♏. 3-8 (0.2-0.5). Best administered in capsules. Follow with a laxative in 2-4 hours: ol. ricini ʒ 1-2, or administer in castor oil, through a stomach-tube if necessary, on an anesthetized stomach (1-2 grains of cocain in 10-20 drops water). See ℞ 5, pg. 9.

***Aspirinum** (Aspirin) cf acidum acetyl-salicylicum.

***Atoxyl** cf arseni trioxidi.

**Atropina** cf belladonna.

***Bacillol** cf cresol.

***Bacterol** cf cresol.

**Balsamum Copaiba** cf copaiba.

**Balsamum Peruvianum** (Balsam of Peru). **Extern.**, parasiticide in mange (10% alcoholic solution, or in ointment); promotes healing of badly granulating wounds. **Intern.**, stimulant expectorant in bronchitis. **H. & C.** 3 2½-6 (10.-25.); Sh. & Sw. gr. 15-75 (1.5.); D. gr. 2-15 (0.13-1.); Cat, gr. 2-8 (0.13-0.5).

℞ 1
Balsami Peruviani ʒ iss.
Ft. capsulae gelatinae No. x.
Sig. One capsule daily for bronchitis or cystitis in dog.

℞ 2
Balsami Peruviani Gm. 80
Ichthyoli Gm. 20
Oleoresinae aspidii Gm. 50
Creolini Gm. 50
Alcoholis 70% Gm. 500.
M. Sig. For mange in dog (Miller).

℞ 3
Balsami Peruviani ♏. xxx
Petrolati ʒ ii.
M. Ft. ung. Sig. For wounds, scabs on teats, etc.

***Barii Chloridum** (Barium Chlorid). **Intern.**, stimulates peristalis. Colic in large **horse** per os 3 1½-3 (6.-12.); **C.** 3 1-3 (5.-12.); per vein for large horse gr. 7½-15 (0.5-1.). Give in divided doses, 4-8 grains in 10 cc. warm water, repeat in 15 minutes. Very useful in inducing contractions of the rumen in acute indigestion in cows; administer 3 2-3 per os in single or divided dose. Contraindicated in heart weakness, weak or aged animals. Caution with dose! Antidote: **atropin**, sodium sulphate per os or vein.

**Belladonnae Folia.** 0.35% alkaloids (atropin). **Intern.,** *excitant* in small doses: poisoning with arecolin, barium; useful in shock, collapse, pulmonary edema, pneumonia, and heat stroke. Suppresses abnormal salivation, sweating, polyuria. *Antispasmodic:* colic, tetanus, cough, bronchitis, dyspnea. *Suppresses symptoms of heaves. Caution in combination with morphin* (paralysis of bowel with decreased secretions and death). **H. & C.** 3 2-8 (8.-30.); Sh. & Sw. gr. 10-20 (0.65-1.3); D. gr. 2-5 (0.13-0.3). PREPARATIONS: *Tinctura Belladonnae Foliorum.* 0.035% alkaloids. **H. & C.** 3 4-8 (15.-30.); Sh. & Sw. 3 1-2 (4.-8.); D. ♏. 15-30 (1.-2.). *Extractum Belladonnae Foliorum.* 1.4% alkaloids. **H. & C.** gr. 45-75 (3.-5.). *Fluidextractum Belladonnae Radicis.* 0.5% alkaloids. **H. & C.** 3 1-2 (4.-8.); Sh. & Sw. ♏. 10-15 (0.65-1.); D. ♏. 1-3 (0.06-0.2). *Atropinae Sulphas.* **H. & C.** gr. ¼-½ (0.016-0.03); Sh. & Sw. gr. 1/6-1/4 (0.01-0.016); D. gr. 1/24-1/12 (0.0027-0.005). Per subcutis. **Extern.,** to dilate pupil for examination of the eye, to paralyze accommodation in ophthalmia, and to prevent adhesions in iritis. 1-2% atropin sulphate. Fl. Ext. and Extract are useful in allaying peripheral irritation, see linimentum.

℞ 1
Strychninae sulphatis
Atropinae sulphatis aa gr. ss
Aquae destil. 3 iiss.
M. Ft. sol.
Sig. Per subcutis for a horse with heart weakness (edema of lungs, overexertion).

℞ 2
Strychninae sulphatis gr. vi
Digitalini Germanici gr. ix
Atropinae sulphatis gr. ii
Aquae 3 ii.
M. Sig. 5 cc. per subcutis in circulatory depression in horse and cow; ½ cc. for large dog.

℞ 3
Ferri sulphatis ʒ viii
Camphorae ʒ iv
Belladonnae fol. ʒ iv
Arseni trioxidi 3 v.
M. Sig. Teaspoonful 2-3 times daily for horse with heaves.

℞ 4
Juniperi ʒ iii
Ammonii chloridi
Potassii acetatis aa ʒ iss
Pulv. Belladonnae fol. ʒ iii.
M. Ft. chart. No. xii.
Sig. One powder 3-4 times daily for nasal catarrh in a horse.

**Benzoinum** (Benzoin). Gum resin. PREPARATIONS: *Acidum Benzoicum.* **Extern.**, as balsam of Peru in mange, etc. **Intern.**, urinary antiseptic in cystitis; stimulant expectorant in bronchial catarrh, and pneumonia of dog distemper (gr. ½-3). *Sodii Benzoas.* Useful in pharyngitis. **H. & C.** 3 ½-8 (2.-30.); Sh. & Sw. gr. 10-60 (0.65-4.); D. gr. 3-10 (0.2-0.65). *Tinctura Benzoini.* 20% benzoin. **H. & C.** ʒ ½-1 (15.-30.); Sh. & Sw. 3 1-3 (4.-12.); D. ♏. 30-60 (2.-4.). *Tinctura Benzoini Composita.* **Extern.**, wounds, scratches (alone or with 4 parts glycerin); inhalation in bronchitis, etc. (1:100). **Intern.**, chronic bronchitis. Dose: as tincture.

℞
Acidi benzoici gr. xxx
Sacchari 3 x.
M. Ft. chart. No. x.
Sig. 1-3 powders daily for a dog with bronchitis.

**Betanaphthol** (Naphthol). Resembles naphthalin. **Extern.**, germicide in parasitic skin diseases (ringworm, scabies). Alcoholic solution, or in ointment (1:10-20). Very toxic for cats. **Intern.**, intestinal antiseptic and vermifuge. Too toxic for general use, action similar to phenol. Daily dose: **H. & C.** 3 1 (5.); D. gr. 8 (0.5); Cat, gr. ¾-1½ (0.05-0.1).

***Bismuthi Dithiosalicylas** (Thioform). Substitute for iodoform in moist eczema. In otorrhea after using alcoholic sublimate.

***Bismuthi Iodosubagallas** (Airol). Antiseptic as powder (alone or with talc and starch), ointment, or paste. Airol paste is a very useful protectant as substitute for bandage over small sutured wound.

℞ 1
Airoli
Glycerini
Mucilag. acaciae
aa 3 i
Kaolini 3 ii.
M. Ft. pasta = Airol paste.

***Bismuthi Subgallas** (Dermatol). **Extern.**, wounds, moist eczema. Use alone, with talcum or amylum (1:5). Burns and abrasions in 10-20% ointment. Substitute for iodoform; not superior to subnitrate.

℞ 1
Dermatol 10
Amyli 60
Talci 30.
M. Dermatol powder (Schindelka).

**Bismuthi Subnitras** (Bismuth Subnitrate). **Intern.**, antiseptic astringent; protectant after laxative in catarrhal diarrhea; useful in combination with salol; antiemetic with hydrocyanic acid. Very useful in gastrointestinal irritation from caustic poisons and other causes in cows. Daily dose: **C.** ʒ 2-4 in a quart of warm milk; **H.** ʒ 1-4; Sh. & Sw. 3 ½-1 (2.-4.); D. gr. 5-30 (0.3-2.); Cat, gr. 5-8 (0.3-0.5). **Extern.**, antiseptic as powder, ointment, or paste.

℞ 1

| | |
|---|---|
| Bismuthi subnitratis | 3 ss |
| Salol | 3 i |
| Morphinae sulphatis | gr. i. |

M. Ft. chart. No. vi.
Sig. One powder thrice daily for a dog with diarrhea.

***Black Antimony** cf antimonii sulphidum.

***Black Wash** cf hydrargyri chloridum mite.

**Bloodroot** cf sanguinaria.

**Blue Ointment** cf hydrargyrum.

**Blue Stone** cf cupri sulphas.

**Blue Vitriol** cf cupri sulphas.

**Bolus Alba** cf kaolin.

***Bolus Armena** (Red Bole). Coloring for powders.

**Borax** cf sodii boras.

***Bovovaccine.** Suspension of human tubercle bacilli. Does not establish complete or permanent immunity against tuberculosis.

**Brandy** cf alcohol.

***Bryonia.** Drastic hydragogue cathartic. Rarely used.

**Buchu.** Leaves of Barosma Betulina. **Intern.,** feeble diuretic in cystitis, frequent urination, etc. **H. & C.** ʒ 1-2 (30.-60.); Sh. & Sw. 3 ½-1 (2.-4.); D. gr. 5-30 (0.3-2.). PREP: *Fluidextractum Buchu:* uses and dose as buchu.

**Buckthorn** cf frangula.

***Burgundy Pitch** cf pix Burgundica.

***Burrow's Solution** cf alumen.

***Butter of Antimony** cf antimony trichlorid.

**Cacao Butter** cf oleum theobromatis.

**Caffeina** (Caffein). Soluble in 80 parts water. **Intern.,** to stimulate *heart, respiration,* brain and cord. Inferior to digitalis in valvular insufficiency, superior in exhaustion insufficiency (pneumonia, septicemia); diuretic; antidote in chloroform and narcotic poisoning. Combine with atropin in acute pulmonary edema (per subcutis). Administer caffein and the citrate in pills or electuary, others per subcutis (soluble). **H. & C.** 3 1-2 (5.-8.); D., large, gr. 8-30 (0.5-2.); small, gr. ½-8 (0.1-0.5). PREPARATIONS: *Caffeinae Sodii-benzoas.* ******Caffeinae Sodio-salicylas N. F.* 45%. Soluble in 2 parts warm water. Dose: double caffein. *Caffeina Citrata.* 50% caffein. Dose: double caffein.

℞ 1
Caffeinae sodio-salicylatis 3 i
Aquae destil. 3 v.
Sig. Subcutaneous injection for a horse with pneumonia, or a cow with parturient paresis.

℞ 2
Caffeinae 3 vi
Althaeae ʒ ii
Aq. com. q.s. massa.
M. Ft. boli No. vi.
Sig. One bolus twice daily for a horse with heart weakness.

℞ 3
Caffeinae sodio-salicylatis
Pulv. sacchari aa gr. xl.
M. Ft. chart. No. v.
Sig. One powder daily for a dog with ascites.

***Calamin** cf zinci carbonas.

**Calcii Carbonas Praecipitatus** (Calcium Carbonate; Chalk; $CaCO_3$). **Intern.,** antacid; mild astringent (diarrhea); rachitis in the young. **H. & C.**

℥ ½-2 (15.-60.); Foals and Calves, ʒ 2½-5 (10.-20.) daily; Lambs, Pigs, and Dog, ʒ ½-2½ (2.-10.) per day in food. **Extern.**, desiccant in eczema and chafing.

**Calcii Chloridum** (Calcium Chlorid; $CaCl_2$). **Intern.**, hemostatic in purpura, hemophilia, and internal hemorrhage. Value doubtful. **H. & C.** ʒ 1-2 (4.-8.); Sh. & Sw. gr. 8-30 (0.5-2.); D. gr. 1-10 (0.065-0.6).

***Calcii Iodidum** (Iodid of Lime). Calcidin (Abbott). **H. & C.** ʒ ½-1 (2.-4.); Sh. & Sw. gr. 5-10 (0.3-0.6); D. gr. 1-3 (0.065-0.2). Very useful in congestion or edema of upper air passages, give freely and often in hot water.

***Calcii Lactas** (Calcium Lactate). Uses and dosage as calcii chloridi. Soluble and non-irritating, may be given per subcutis.

**Calomel** cf hydrargyri chloridum mite.

**Calx** (Quicklime; Lime; CaO). Germicide. Deodorizer. Caustic. **Stable Disinfectant:** milk of lime 1:2 for whitewash; 1:20 for floors, gutters, etc.; add liquor cresolis compositus, or phenol (1-5%) for active germicide. Sprinkle on cadavers and excreta. **Extern.**, Potassa Cum Calce (Vienna Paste), equal parts lime and caustic potash, in canker, small tumors, etc. ***Calcii Hydras** (Slaked Lime). Desiccant and antiseptic powder alone, or with equal parts charcoal, in wounds, eczema, lice on hens, etc. Useful in the prevention of fouls in cattle; place in a box at the stable entrance, sprinkle on the stall beds. Useful in "heave powders." **H. & C.** ʒ 1-2 (4.-8.); Sh. & Sw. gr. 10-30 (0.6-2.); D. gr. 3-10 (0.2-0.6). **Liquor Calcis** (Lime Water). Saturated aqueous solution of calcii hydras. **Intern.**, ¼-½ of milk for young in

diarrhea; clyster in pin-worms; antidote in acid poisoning; lime water and gentian in "scours" for calves. **H. & C.** ʒ 2-3 (60.-90.); Sh. & Sw. ʒ 2-8 (8.-30.); D. ʒ 2-6 (8.-25.); Calves, ʒ 2 (60.).

℞ 1
Calcii hydroxidi
Sal Carolini fac-
titii aa ʒ viii
Arseni trioxidi ʒ v.
M. Sig. Tablespoonful thrice daily in feed in chronic bronchitis, heaves, etc.

**Calx Chlorinata** (Chlorinated Lime; "Chlorid of Lime"; $Ca(ClO)_2 + CaCl_2$.). 30% chlorine. Germicide. Deodorizer. Disinfectant. **Stable Disinfection:** 1:3-20, uncertain in tuberculosis and glanders. Very efficient in combination with phenol leaving an objectionable and persistent odor. **Extern.,** 1-10% in wounds, ulcers, etc.; powder or paste in canker; 5% aqueous solution in foot-rot.

**Cambogia** (Gamboge). Drastic cathartic. **H.** ʒ ½-1 (15.-30.); **C.** ʒ 1-1½ (30.-45.); Sh. & Sw. ʒ ½-1 (2.-4.); D. gr. 3-15 (0.2-1.).

**Camphora** (Camphor). Soluble in 1 part alcohol, 4 parts olive oil, ¼ chloroform, 2 turpentine. **Intern.,** circulatory stimulant in pneumonia and septicemia (inject into the pectoral muscles); carminative in colic (per os); antipyretic. **H. & C.** ʒ 1-3 (5.-15.); D., gr. 7½-30 (0.5-2.); Cat, gr. 2-8 (0.13-0.5). In pills, emulsion, or suspension. *Linimentum Camphorae (1 : 4 of olive oil) per subcutis: 10 times the dose of camphor. 2-4* ʒ *daily at 2-hour intervals in severe septicemia and pneumonia.* **Extern.,** rubefacient in sprains, bruises, and phlegmons; dusting-powder

(camphor ʒ 1-2; starch and zinc oxid aa ʒ ½). PREPARATIONS: *Linimentum* (1 : 4 cottonseed oil); *Spiritus* (1 : 10 alcohol). *Frohner's Camphor Bandage*, used in lymphangitis, etc.: apply from the coronet to the stifle a layer of cotton; cover with a layer of gauze; saturate with spirits of camphor; enclose both in impermeable material, and hold all in position with wide bandages of cotton cloth. At frequent intervals inject spirits of camphor beneath the bandage. Action supported with arecolin per subcutis. Camphor bandage also used in suppurative tendovaginitis (free incision, irrigation, bandage). See alcohol bandage.

℞ 1
Aetheris ʒiiss
Lin. camph. ʒi.
M. Sig. Per subcutis in 4 doses for a horse with contagious pleuropneumonia.

℞ 2
Camphorae 5
Adipis 50.
M. Ft. unguent.
Sig. For mastitis (Bang).

**Cannabis** (Hemp; Hashish). **Intern.**, narcotic in colic, azoturia, to quiet nervous horses in minor operations, hobbling, in chloroform narcosis, etc. PREP: *Fluidextractum Cannabis*. **H. & C.** ʒ 2-6 (8.-24.); Sh. & Sw. ♏. 15-60 (1.-4.); D. ♏. 3-10 (0.2-0.6). Per os. **H.** 5-15 cc. per vein.

**Cantharis** (Cantharides; Spanish Flies). Vesicant with 2-6 parts adeps, etc. PREPARATIONS: *Tinctura Cantharidis* (10%). **Extern.**, rubefacient in sprains; alopecia (1:5-10 alcohol); promotes growth of hoof when applied at coronet. See linimentum,

and antiperiostin. **Intern.**, *aphrodisiac.* Daily dose: **C.** 3 5 (20.); **H.** 3 2½ (10.); Sh. & Sw. 3 ½ (2.); D. ℳ. 4-15 (0.25-1.0). **Oleum Cantharidatum* (cantharides 3, olive oil 10). **Oleum Cantharidatum Compositum* (cantharidis 2, euphorbii 1, ol. lini 25, ol. tereb. 5; mix and let stand for several days). *Collodium Cantharidatum.* Counterirritant in tendo-vaginitis, periostitis, wind-puffs, etc.

℞ 1
Cantharidis
Adipis
Ol. olivae aa 2
M. After 10 hours add:
Cerae flavae
Euphorbii aa 1
Terebinthinae 2.
M. Ft. Unguentum Cantharidum pro usu veterinario G. P.

℞ 2
Picis Burgundicae
Resinae aa ʒ iv
Cerae flavae ʒ iii
Ol. olivae ʒ xi
Cantharidis ʒ vi
Euphorbii ʒ ii.
M. Ft. unguentum.
Sig. Spavin blister.

℞ 3
Cantharidis
Terebinthinae aa 1
Adipis 4.
M. Ft. unguentum.

℞ 4
Cantharidis
Hydrargyri iodi
rubri aa 3 ii
Petrolati ʒ ii.
M. Ft. unguentum.

℞ 5
Ol. picis liquidae 8
Cantharidis 1.
M. Sig. For periostitis, apply weekly with a brush.

**Capsicum** (Cayenne Pepper). **Intern.**, carminative, stomachic; stimulant in gastric catarrh, indigestion, and tympany. **C.** 3 2-5 (10.-20.); **H.** 3 1-2½ (5.-10.); Sh. & Sw. gr. 15-75 (1.-5.); D. gr. 1½-2 (0.1-0.2). PREPARATIONS: *F. E. Capsicum.* Dose: as

capsicum. *Tinctura:* H. ʒ 2-4 (8.-16.); C. ʒ 1 (30.); Sh. & Sw. ʒ 1-2 (4.-8.); D. ♏. 10-40 (1.-3.). **Extern.,** rubefacient in sprains, stasis, pleurisy, etc.

℞ 1
Tincturae cantharidis
Tinct. capsici
Alcoholis aa. 10.
M. Sig. For alopecia areata.

℞ 2
F. E. Capsici ʒ i
Spts. ammon. arom. ʒ iii.
M. Sig. Teaspoonful in 12 ounces lime- or soda-water thrice daily for a calf with scours.

**Carbo Ligni** (Wood Charcoal). Absorbent and desiccant: alone, with boric acid, or air slaked lime.

**Carbolic Acid** cf phenol.

***Carbonei Disulphidum** (Carbon Disulphid; $CS_2$). **Intern.,** anthelmintic for larvae of estrus equi (bots). Diet and give laxative on previous day; at 6 a. m. and at one-hour intervals give ʒ 2-3 in gelatin capsules until 4 doses have been given. Larvae are discharged in 24 hours.

***Carlsbad Salts** cf sodii sulphas, and Sal Carolinum factitium.

**Cascara Sagrada** (Rhamnus Purshiana). Dried bark. Laxative in chronic constipation. **Prep:** *Fluidextractum Rhamni Purshianae.* Dog, ʒ ½-2½ (2.-10.).

**Castor Oil** cf oleum ricini.

***Cataplasma Kaolini** N. F. ("Antiphlogistin"). Kaolin 57.5, glycerin 37.5, boric acid 4.5, thymol 0.5, ol. peppermint 0.5, methyl salicylate 2. Poultice for application of heat in pharyngitis, acute tendinitis, sprains, etc.

***Catechu** cf gambir which replaces catechu.

***Catnip** (Cataria). Antihysteric. Odor causes excitement in cats.

***Caustic Balsam** cf linimentum tiglii.

**Caustic Potash** cf sodii hydroxidum.

**Cera Alba** (White Wax). **Cera Flava** (Yellow Wax).

**Ceratum** (Cerate). White wax 3, white petrolatum 2, benzoinated lard 5. Used to increase solidity of ointments, protect normal skin from discharges, and protect abraded or irritable surfaces.

**Chalk** cf calcii carbonas.

**Chloralum Hydratum** (Chloral Hydrate). **Intern.,** narcotic and antispasmodic in colic, epilepsy, eclampsia, tenesmus in prolapsus uteri, etc.; sedative in nervous horses for minor operations and hobbles (curare effect on muscles); best antidote in strychnin poisoning; claimed to have no effect on action of arecolin or eserin. Narcosis per rectum for operation: chloral ʒ 4, gum arabic ʒ 2, aqua destil. 3 quarts. *Sedative:* **H. & C.** ʒ 1-2 (30.-60.); Sh. & Sw. ʒ 1-2½ (4.-10.); D. gr. 8-75 (0.5-5.). Administer in mucilaginous drink, or in bolus. Fatal dose: **H.** ʒ 5-6. **Extern.,** add to iodoform in pruritus.

***Chloral Camphoratum N. F.** Equal parts chloral and camphor. 30-60 grains to 1 ʒ water or petrolatum in pruritus.

***Chloretone.** Local anesthetic in painful wounds and burns. Saturated aqueous solution; 10% ointment; or 1-5% in starch as dusting-powder.

**Chloroformum. Intern.,** carminative with ol. ricini 1:10 in colic; narcotic in eclampsia and tetanic spasms (inhalation). **H. & C.** ʒ 1-2 (30.-60.); Sh. &

Sw. ʒ 1-2½ (4.-10); D. ♏. 8-60 (0.5-4.). *Narcosis* per inhalation for operations on **H. & C.** (*prolapsus uteri*). **Extern.**, rubefacient, combine with acetic acid for analgesic effect. See linimentum.

| ℞ 1 | ℞ 2 |
|---|---|
| Chloroformi ʒ i<br>Syrupi ʒ ii.<br>M. Sig. Tablespoonful doses for eclampsia in dog. | Chloroformi<br>Ol. olivae aa.<br>M. Oleum Chloroformum for orchitis. |

**Chrysarobinum** (Chrysarobin). **Extern.**, eczema, ringworm. Ointment, or alcoholic solution 10%.

**Cinchona** (Cinchona Bark). Used mainly for astringent effect of tannin, other drugs better. **H.** ʒ 2½-6 (10.-25.); **C.** ℈ 1-2 (30.-60.); **Sh. & Sw.** ʒ 1-2½ (5.-10.); D. gr. 30-75 (2.-5.). *See quinina.*

**Cocainae Hydrochloridum** (Cocain). **Extern.**, anesthetic on mucous membranes 5%; in eye-wash 1%; per subcutis for circumscribed anesthesia 1-5% (do not exceed 3-5 grains). Diagnostic in lameness 2-5%. Pruritus 1-10% ointment.

| ℞ 1 | ℞ 2 |
|---|---|
| Cocainae hydrochloridi gr. ¾<br>Zinci oxidi<br>Ol. olivae aa ʒ iiss.<br>M. Ft. unguentum.<br>Sig. Externally for dog. | Cocainae hydrochloridi gr. iss<br>Solut. adrenalin hydrochlor. 1:1000 ♏. xv<br>Aq. destil. ℥ ii.<br>M. Sig. Local anesthesia for subcutaneous use. |

**Codeinae Sulphas** (Codein). Anesthetic. Best cough remedy for dogs causing neither diarrhea nor constipation. D. gr. ½-1 (0.03-0.065).

℞ 1
Codeinae sulphatis gr. iss
Sodii bromidi ʒ iiss
Aq. destil. ℥ iii.
M. Sig. Teaspoonful twice daily in nervous type of dog distemper.

℞ 2
Codeinae sulphatis gr. x
Aq. amygd. amarae ʒ v.
M. Sig. 10 drops thrice daily for a dog with bronchitis.

℞ 3
Codeinae sulphatis gr. ivss
Syrupi althaeae ʒ iiss
Aquae destil. ℥ v.
M. Sig. Teaspoonful every three hours for a dog with a cough.

***Collargol** cf argenti colloidale.

**Collodium Flexile** (Collodion). **Extern.**, protective for fissures and abrasions (teats). Use alone or combine with antiseptics, astringents, etc. First dry the part with alcohol. Useful to retain small cotton packs, or protect small sutured wounds.

**Colocynthis** (Colocynth). Drastic cathartic, poison and uncertain in horse and sheep. Sw. 3 2 (8.); D. gr. 7½-30 (0.5-2.).

**Copaiba** (Copaiva; Balsam Copaiba). Yellowish-brown viscid liquid. **Intern.**, expectorant and diuretic in bronchitis, dropsy, and cystitis. Action and use similar to turpentine. **H.** 3 2½-6 (10.-25.); **C.** ʒ 1-2 (30.-60.); Sh. 3 1-2½ (5.-10.); Sw. 3 ½-1 (2.-4.); D. gr. 7½-30 (0.5-2.).

**Copper** cf cupri.

**Corrosive Sublimate** cf hydrargyrum chloridum corrosivum.

**Cottonseed Oil** cf oleum gossypii seminis.

***Creolinum** (Creolin). See cresol. 25-50% cresol emulsion. Creolin-Pearson, Izal, Cresolin. **Extern.,** disinfectant: wounds 2%; operations 1% (hemostatic); vagina and uterus ½-1%; clyster ½%; stable disinfectant 3%; eczema 10-20% spiritus, or 2-10% ointment; otorrhea 1-2% alcoholic solution. **Intern.,** intestinal antiseptic, antiferment, stomachic; useful in tympany, diarrhea, or rectal worms (½% clyster); ½-1 ʒ daily in chronic gastro-intestinal catarrh in **H. & C.**; calf diarrhea ʒ 1 in ʒ 8 cold water thrice daily; colic ½-1 ʒ in capsules or emulsion. **H. & C.** ʒ ½-1 (15.-30.); Sh. & Sw. ʒ 1-2½ (5.-10.); D. ♏. 8-30 (0.5-2.); Fowl, ♏. 1½-4 (0.1-0.25). Administer in capsules, emulsion, or electuary. **Inhalation** in bronchitis; thin slightly with water and vaporize over a single burner oil stove, or throw hot bricks or irons into a 3-5% solution.

| ℞ 1 | | ℞ 2 | |
|---|---|---|---|
| Creolini | ʒ iv | Creolini | |
| Aq. com. | O i. | Alcoholis | aa i |
| M. Sig. Tablespoonful twice daily for diarrhea in pigs. | | Sapo mollis | v. |
| | | M. Sig. Fröhner's creolin liniment for mange. | |

**Creosotum** (Creosote). Guiacol 60% and cresol from wood. **Intern.,** stimulant expectorant in bronchitis, pneumonia, cough, putrefaction in bronchi; intestinal antiseptic. **H. & C.** ʒ 1-4 (5.-15.); Sh. & Sw. ♏. 15-30 (1.-2.); D. ♏. ¾-3 (0.05-0.2); Fowl, ♏. 1/6-3/4 (0.01-0.05). Administer in capsule, bolus or electuary. *Vermifuge in stomach-worms:* lambs 4-12 months ʒ 2-4 of 1% solution of coal-tar creosote; sheep ʒ 3-5. In drench. *Lung-worms:* creosoti 20, ol.

olivae 100. M. Sig. Inject 5 cc. into the trachea in sheep and calves; repeat 3-4 times at 4-day intervals. **Extern.**, pruritus and chronic eczema (10% ointment); hemostatic in parenchymatous hemorrhage (5% alcoholic or glycerin solution); antiseptic in thrush and scratches (5-10% alcoholic solution).

| ℞ 1 | | ℞ 2 | |
|---|---|---|---|
| Creosoti | ʒ v | Hydrargyri chloridi corrosivi | 2 |
| Glycyrrhizae Althaeae aa | ʒ ii | Creosoti | 5 |
| Aq. com. q.s. sat. | | Alcoholis dil. Glycerini aa | 100. |
| M. Ft. pilulae No. iii. Sig. One daily for a horse with fetid bronchitis (Fröhner). | | M. Sig. For heat eruption in a horse (Schlampp). | |

**Cresol** (Pure Cresol; Cresylic Acid). Sol. in 60 parts water. A mixture of cresols (meta, ortho, and para) freed from phenol, and water. Germicide. Antiseptic. Deodorizer. About 3 times the strength of phenol but less toxic. Surgery 1%; mucous membranes ¼%; excreta 1½%; walls and clothing ½-1%. **Tricresol.* Compound of the 3 cresols, soluble in water. *Liquor Cresolis Compositus.* 50% pure cresol in linseed oil soap. Practically identical with lysol. **Crude Cresol* (Crude Carbolic Acid). Preparations containing 25-50% cresols in *emulsion:* Creolin-Pearson, izal, cresolin. Preparations containing 25-50 cresols in *solution:* lysol, bacterol, bacillol.

**Creta Praeparata** cf calcii carbonas.

***Cupri Oleas** (Oleate of Copper). Indolent ulcers, unhealthy granulations, *mange* in cats and dogs. 10-20% ointment.

**Cupri Sulphas** (Copper Sulphate; Blue Vitriol).

**Intern.**, astringent and vermifuge. **H. & C.** 3 ½-3 (2.-12.); D. gr. ¾-1½ (0.05-0.1). *Stomach-worms in sheep:* make a 1% solution of clear-blue copper sulphate crystals in water (10 grams to 1000 cc.), using a porcelain or enamel-ware dish. For lambs under one year administer orally, 1¾ fluid ounces (50 cc.); for sheep past one year, 3½ fluid ounces (100 cc.). **Extern.**, caustic in ulcers and fistulae (cones); antiseptic in granular conjunctivitis and ulcerative cornea (1%); antiseptic in hoof-rot (10%).

**Dermatol** cf bismuth subgallas.

**Digitalis** (Foxglove). Dried Leaves. Cardiant in heart diseases (small daily doses every alternate week); cardiant and antipyretic in heart exhaustion (acute infectious diseases, pneumonia, bronchitis, azoturia, collapse); diuretic in cardiac dropsy only. CARDIANT: **H. & C.** gr. 30-75 (2.-5.); D. gr. ¾-3 (0.05-0.2); Cat, gr. ¾-1½ (0.05-0.1); Fowl, gr. ¼-¾ (0.016-0.05). Action in about 12 hours after administration. ANTIPYRETIC: **H. & C.** 3 1-2½ (5.-10.); D. gr. 3-7½ (0.2-0.5); Cat, gr. 1½-3 (0.1-0.2). Minimum fatal dose in horse: ʒ 1 (25.) at one dose, or divided during three days, cumulative (Fröhner). PREPARATIONS: *Tinctura Digitalis.* Dose: 5 times the leaves. *Fluidextractum Digitalis.* Dose: as leaves. *Infusum Digitalis* (1:67). Used mainly for diuretic effect. **H. & C.** ʒ 2-6 (60.-180.); Sh. & Sw. ʒ ½-1 (15.-30.); D. ♏. 5-30 (0.3-2.). **Digitalinum Germanicum* (*Purum*). Mixture of glucocids made from seeds. 50-60% digitonin. Soluble in water. Dose: **H. & C.** gr. ¼-½ (0.016-0.03); Sh. gr. 1/30-1/10 (0.002-0.006); D. gr. 1/60-1/30 (0.001-0.002). Per subcutis, or vein. See belladonna ℞ 2.

℞ 1
Digitalis gr. xv
Sacchari lactis ʒ iss
M. Ft. chartulae No. x.
Sig. One powder daily for a dog with valvular disease.

℞ 2
Digitalis ʒ iiss
Althaeae et aquae q.s. boli No. i.
Sig. For a horse with heart weakness in pneumonia.

℞ 3
Quininae sulphatis ʒ iv
Aquae ℥ i
Acidi sulphurici q.s. solve et adde
F. E. digitalis ʒ iv.
M. Sig. One dram every 2-3 hours for a horse.

***Dionin** cf morphin.

***Diuretinum** cf theobromina.

**Dover's Powder** cf opium.

**Epsom Salts** cf magnesii sulphas.

**Ergota** (Ergot of Rye; Secale Cornutum). Ecbolic to stimulate weak uterine contractions and promote expulsion of fetus or fetal membranes; vasoconstrictor in internal hemorrhage. **C.** 3 6-8 (25.-32.); **H.** 3 4-6 (15.-25.); Sh. 3 1-2½ (5.-10.); Sw. 3 ½-1 (2.-5.); D. gr. 7½-30 (0.5-2.). PREPARATIONS: *Fluidextractum Ergotae.* Most reliable form. Dose: as ergot. *Extractum Ergotae.* **H. & C.** 3 1-2½ (5.-10.); D. gr. 3-15 (0.2-1.). Per os; dosage per subcutis one-half the dose per mouth. **Ergotin.* Unreliable.

℞ 1
Ergotae ʒ iss
Glycyrrhizae ʒ vi
M. Ft. chartulae No. x.
Sig. Three weekly for a horse with heaves.

℞ 2
Veratrinae sulphatis 3.0
Strychninae sulph. 2.0
Ergotinin 0.1
Glycerini 150.0.
M. Vergotinine.

**Eserinum** cf physostigminae.

**Ether** cf aether.

***Eucainum** (Betaeucain). Uses and dosage as cocain.

**Eucalyptus.** Dried leaves. Carminative. **H. & C.** ʒ 2-3 (60.-100.). PREPARATIONS: *Fluidextractum Eucalypti.* Dose: as eucalyptus. *Oleum Eucalypti.* **Intern.,** antiseptic and expectorant in chronic bronchitis. **H. & C.** 3 1-4 (5.-15.); D. ♏. 5-10. Administer per os or inhalation several times daily. **Extern.,** antiseptic, used against flies (ointment, or oil 1:5-10). *Eucalyptol.* Action and uses as oil. See menthol.

***Euphorbium.** Active vesicant (1:10-15). Caution! Usually combined with cantharides.

**Fel Bovis** (Oxgall). Cholagogue.

**Fennel** cf foeniculum.

**Ferri Carbonas Saccharatus.** 15% ferrous carbonate. Anemia in dogs, gr. 3-30 (0.2-2.).

**Ferri Chloridum** (Ferric Chlorid; Sesquichlorid or Perchlorid of Iron). 22% metallic iron. PREPARATIONS: *Liquor Ferri Chloridi* (29%). *Tinctura Ferri Chloridi* (13%). **Extern.,** styptic on wounds and mucous membranes (1-5%); astringent in chronic pharyngitis and laryngitis (½-1%). **Intern.,** tonic in anemia. **H. & C.** 3 ½-1 (2.-5.); D. ♏. 2-8 (0.1-0.5).

**Ferri et Ammonii Citras.** 15% metallic iron. Mild, non-astringent and soluble. Hematinic in anemia in dogs, gr. 2-15 (0.13-1.).

***Ferri Hydroxidum** (Ferric Hydroxid; $Fe(OH)_3$). *Arsenic Antidote.* Precipitated from any liquid prep-

aration of iron by adding an alkali (ammonia or sodium carbonate). Dose: as ferri hydroxidum cum magnesii oxido.

**Ferri Hydroxidum cum Magnesii Oxido** (Ferric Hydroxid with Magnesium Oxid). Brown suspension. *Arsenic Antidote.* Prepare fresh from A: liquor ferri tersulphatis 40, water 125., and B. magnesia 10, water 800. Shake B, add A and shake. **H. & C.** ʒ 8 (250.); Sh. & Sw. ʒ 4 (125.); D. 3 4 (15.); Cat and Fowl 3 1 (4.). Repeat every 15 minutes.

**Ferri Sulphas** (Green Vitriol; Copperas). **Intern.,** styptic and weak antiseptic in diarrhea; hematinic in anemia. *Tonic:* **H. & C.** gr. 30-75 (2.-5.); Sh. & Sw. gr. 8-15 (0.5-1.); D. gr. ¾-3 (0.05-0.2); Cat, gr. 1/6-1/3 (0.01-0.02). *Styptic:* **H. & C.** 3 2½-6 (10.25.); D. gr. 1½-8 (0.1-0.5).

**Ferrum Reductum** (Reduced Iron). Greyish insoluble powder. **Intern.,** hematinic. Daily dose: **H. & C.** 3 2-4.

℞ 1

| | |
|---|---|
| Ferri reducti | ʒ v |
| Sal Carolini factitii | ʒ viii |
| Nucis vomicae | ʒ ii. |

M. Sig. Tablespoonful in each feed for a horse with anemia.

**Fibrolysin.** A solution of thiosinamine and sodium salicylate. It is claimed that injections break up fibrous tissue.

**Filix Mas** cf aspidium.

**Formalin** (*Liquor Formaldehydi U. S. P.*). 40% aqueous solution of formaldehyd gas. Caustic and

antiseptic. Bandage in canker (25-100%); apply to thrush (10-50%); very useful in verrucose dermatitis (grease-heel) in 0.25% solution under bandage, renew and curette daily. One ounce daily in capsule, milk, or liq. petrolatum for mastitis in cows (Frost). 1:25000 in milk to prevent bowel catarrh in calves; 15 drops to a pint of milk or water as treatment. Instruments 1-2%, or vapor of paraform tablet; excreta 5%; preservative 1 : 20,000 to 30,000. **Stable disinfection:** 1½% solution for walls; 20 oz. formalin to 16 oz. permananate of potash per 1000 cu. ft. for vaporization. Use on tissues not to be prolonged.

| ℞ 1 | |
|---|---|
| Liq. formaldehydi | 1-3 |
| Petrolati | 50 |
| Zinci oxidi | |
| Amyli aa | 24. |
| M. Pasta (Schindelka). | |

| ℞ 2 | |
|---|---|
| Formalin | 1 |
| Ol. olivae | 10. |
| M. Sig. for pruritus (Joseph). | |

| ℞ 3 | |
|---|---|
| Formalin | 10 |
| Alcohol | 40 |
| Sulphur iodid and oil | 50. |
| M. Sig. For pruritus. | |

**Formin** cf hexamethylenamine.

**Fowler's Solution** cf arseni trioxidi.

**Galla** (Nutgall; Gall). 30-60% tannic acid. cf tannic acid.

**Gambir** (Krameria; Kino). Use: as acidum tannicum. Dose: double tannic acid.

**Gamboge** cf cambogia.

***Gasolene. Intern.,** in stomach-worm disease and lung-worm disease in sheep and cattle. Dose: Lambs, 3 2; Sheep and Calves 3 4; Yearling steers ʒ 1. Administer in milk, oil, linseed water (demulcent) in the form of a drench. Repeat daily to twice weekly as indicated; less efficient than other vermifuges. **Extern.,** cleansing agent on the skin, action in general like that of aether.

**Gelsemium** (Yellow Jasmine). Action similar to conium, of doubtful value.

**Gentiana** (Gentian). Dried rhizome and root. Very useful stomachic in indigestion, debility, and convalescence. **C.** ʒ 1-2 (30.-60.); **H.** 3 3-6 (12.-25.); **Sh. & Sw.** 3 1-2½ (5.-10.); **D.** gr. 7½-30 (0.5-2.). PREPARATIONS: *Fluidextractum Gentianae.* Dose: as root. *Tinctura Gentianae Compositae.* **H. & C.** ʒ 1-4 (30.-120.); **Sh. & Sw.** ʒ ½-1 (15.-30.); **D.** 3 1-4 (4.-15.), or ♏. 5-10 several times daily.

℞ 1
Sal Carolini factitii ʒ xvi
Nucis vomicae
Gentianae aa ʒ viii.
M. Sig. Tablespoonful doses in each feed as a tonic for horse or cow.

**Ginger** cf zingiber.

**Glauber's Salt** cf sodii sulphas.

***Glonoin** cf spiritus glycerylis nitratis.

**Glycerinum** (Glycerin; Glycerol). **Extern.,** protective emollient in skin diseases; softens scabs and crusts; combine with starch or lead preparations in

wounds and burns. Solvent for drugs: sublimate, iodin, alkaloids, tannin. Clysters induce mild peristalsis (H. & C. ʒ 4-6; D. 3 4-8 undiluted). See cataplasma kaolini.

| ℞ 1 | ℞ 2 |
|---|---|
| Liq. plumbi subacetatis ʒ iv | Glycerini |
| Glycerini ʒ ii. | Tinct. iodi |
| M. Sig. For scratches and moist eczema. | Phenolis aa 10 |
| | M. Sig. Apply to scratches in severe infection. |

*Glycerylis Nitras cf spiritus glycerylis nitratis.

Glycyrrhiza (Licorice Root). Intern., protectant demulcent; expectorant in cough; improves taste of powders; adhesive in pills. H. & C. ʒ 1-2 (30.-60.); Sh. & Sw. 3 1-2½ (5.-10.); D. gr. 7½-30 (0.5-2.) PREP: *Mistura Glycyrrhizae Compositus.* Ext. of licorice 3, syrup 5, acacia 3, paregoric 12, wine of antimony 6, spirit of nitrous ether 3, water to make 100.

Goulard's Extract cf plumbi acetas.

Grindelia. Stimulant expectorant and sedative in bronchitis of heaves; suppresses nervous roaring in the horse. PREPARATION: *Fluidextractum Grindeliae.* H. & C. 3 4-8 (15.-30.); D. ♏. 15-30 (1.-2.).

Guaiacol. Use and dose as creosotum.

Gum Arabic cf acacia.

*Haarlem Oil cf ol. lini sulphuratum terebinthina.

Hashish cf cannabis.

**Hellebore** cf veratrum.

**Henbane** cf hyoscyamus.

***Heroinum** cf morphinae sulphas.

**Hexamethylenamina** (Urotropin. Formin). Crystals. Soluble in 1.3 parts water. **Intern.**, antiseptic. More powerful than any other remedy in ridding urine of bacteria (Stevens). Recommended for mastitis. Has no antiseptic effect in an alkaline media. **H. & C.** 3 1-2½ (5.-10.) thrice daily; **D.** gr. 7½-15 (0.5-1.) well diluted.

**Homatropinae Hydrobromidum** (Homatropin). Mydriatic. Use: as atropin; effect more transient (1-2 days); expensive.

**Honey** cf mel.

**Hoof Cement.** Combine 1 part gum ammoniac with 2 parts gutta under heat (Defay).

**Hydrargyri Chloridum Corrosivum** (Corrosive Sublimate; $HgCl_2$). **Extern.:** *Caustic:* paste (1:1-5 acacia and water); caustic solution (1:3-10 alcohol); caustic collodion (1 : 10); caustic ointment (1 : 1-10); caustic bougies (sublimate 5, acacia 5, aqua 9, rolled around a dried gut). *Antiseptic* in wounds, 1:1000 aqueous solution; otorrhea, 1 : 1000 alcoholic solution; ringworm 1 : 100-200 alcoholic solution; eye-wash, uterus, etc., 1 : 5000 aqueous solution (irritant); skin, 1 : 500-1000. Add equal parts citric or tartaric acid to prevent formation of insoluble albumenates. **Stable Disinfectant:** 1 : 500-1000. **Intern.**, tonic. **H. & C.** gr. 1½-3 (0.1-0.2); **Sh. & Sw.** gr. 1/6-1/3 (0.01-0.02); **D.** gr. 1/12-1/6 (0.005-0.01). Lethal dose: **H. & C.** 3 1-2 (4.-8.). Cows most susceptible.

℞ 1
Hydrargyri chloridi corrosivi 3 iv
Acidi hydrochlor. (conc.) ʒ iss
Alcoholis ʒ vii
M. et ad. alcoholis ʒ xxxvi
Olei terebinthinae ʒ vi
Camphorae ʒ iv.
M. Sig. Apply once daily with tooth brush for spavin.

℞ 2
Hydrargyri chloridi corrosivi gr.ii-v
Iodi
Glycerini aa 3 i
Alcoholis q.s. ʒ i.
M. Sig. Apply every second day for spavin.

**Hydrargyri Chloridum Mite** (Calomel; $HgCl_2$). **Intern.**, cathartic (dog, cat); intestinal antiseptic (dog distemper, influenza, purpura, diarrhea in young); diuretic (cardiac edema). H. 3 1½-2 (6.-8.); C. gr. 15.-75. (1.-5.); Sh. gr. 4-7½ (0.25-0.5); Sw. gr. 15-60 (1.-4.); D. gr. ½-1½ (0.03-0.1); Cat. gr. 1/6-3/4 (0.01-0.05). **Extern.**, antiseptic and desiccant in moist eczema, foot-rot, scratches, etc.

℞ 1
Hydrargyri chloridi mite 3 i
Althaeae ʒ iii.
Aq. com. q.s. electuar.
M. Sig. For a horse with influenza (Fröhner).

℞ 2
Hydrargyri chloridi mite gr. ¾
Opii gr. iss
Sacchari lactis gr. viii.
M. Ft. pulv.
Sig. For a dog with enteritis (Fröhner).

℞ 3
Hydrargyri chloridi mite gr. iii
Sacchari lactis gr. viii.
M. Sig. For a dog with impaction.

**Hydrargyri Iodidum Rubrum** (Red Mercuric Iniodid of Mercury; $HgI_2$). **Extern.**, blister antiseptic (1 : 10,000-20,000). Soluble in

potassium iodid solutions. See cantharides and antiperiostin.

℞ 1

| | |
|---|---|
| Hydrargyri iodi rubri | 30 |
| Tincturae cantharidis | 100 |
| Potassii iodi | 10. |

Rub in thoroughly for spavins, ringbone, chronic tendinitis, etc.

**Hydrargyri Oxidum Flavum** (Yellow Mercuric Oxid; Yellow Precipitate; HgO). **Extern.**, antiseptic ointment in wounds and bruises (1 : 4-8); eye-salve (1 : 30-50) in leucoma (turbidity of the cornea). PREP: *Unguentum Hydrargyri Oxidi Flavi* (10%).

**Hydrargyri Oxidum Rubrum** (Red Mercuric Oxid). Uses and preparations as yellow oxid.

**Hydrargyrum** (Mercury; Quicksilver; Hg.). PREP: *Unguentum Hydrargyri* (50%). *Unguentum Hydrargyri Dilutum* (Blue Oint.) 33½%. Antiparasitic against lice, apply only to parts that cannot be licked; absorbent in arthritis, tendinitis, etc. *Do not use around cattle*, frequent cause of poisoning.

**Hydrargyrum Ammoniatum** (Ammoniated Mercury; White Precipitate; $HgNH_2Cl$). **Extern.**, antiseptic ointment in parasitic skin diseases and chronic eczema, ringworm, harness eczema (1 :8-10); eye-salve (1:10-20). PREP: *Unguentum Hydrargyri Ammoniati* (10%).

**Hydrastininae Hydrochloridum.** Soluble in 0.3 parts water. **Intern.**, endometritis in cows to stimulate uterine contractions (gr. 4 per subcutis); internal hemorrhage; epilepsy. **D.** gr. 1/6-1/3 (0.01-0.02), or ½-1 cc. of a 10% solution per subcutis.

**Hyoscyamus** (Henbane). 0.06% alkaloids (hyoscin and a little hyoscyamin). Intern., as belladonna. H. & C. ʒ 1-3 (30.-90.); D. gr. 8-60 (0.5-4.). PREPARATIONS: *Tinctura Hyoscyami.* H. & C. ʒ 1-3 (30.-90.); Sh. & Sw. ʒ 2-4 (8.-15.); D. ʒ 1-2 (4.-8.). *Fluidextractum Hyoscyami.* H. & C. ʒ ½-1 (15.-30.); Sh. & Sw. ʒ ½-1 (2.-4.); D. ♏ 5-15 (0.3-1.). *Hyoscinae Hydrobromidum* (Hyoscin; Scopolamin). Heart stimulant (paralysis of vagus); decreases sweat and salivation; mydriatic (1 : 500). Antidote in chloroform poisoning. Narcotic effect in animals doubtful (Fröhner). Use caution against overdosage. H. & C. gr. 1/6-1/3 (0.01-0.02); D. gr. 1/24-1/12 (0.0025-0.005).

***Ichtharganum** (Ichthargan; Silver Ichthyol). 30% silver. Soluble. Extern., as silver nitrate; 5% ointment in infectious vaginitis. Intern., purpura (15 grains in 1-2 ʒ water thrice daily per vein); diarrhea in foals (15 grains daily in opium and tannoform).

***Ichthyolum** (Ichthyol). 15% sulphur. Extern., resorbent in arthritis, tendinitis, contusions, mastitis (25-50% lanolin ointment), 10% lotion or ointment in eczema. Intern., purpura, gastro-intestinal catarrh, dog distemper. Dose: H. ʒ 2 (60.) daily; D. ʒ 1 (4.).

**Indian Hemp** cf cannabis.

**Infusa** cf pg. 10.

***Iodipin** (Iodized Sesame Oil). 10-25% iodin; non-toxic substitute for iodin. Intern., tetanus (ʒ 1 daily of 25% solution), purpura, actinomycosis, heaves, azoturia, pneumonia. H. ʒ 1-2 (30.-60.) of 25% per os, or subcutis. D. ʒ 1-3 (4.-12.) in goitre, asthma, or distemper. Extern., suppurations, fistulae, ulcers.

***Iodoformogen.** Odorless mixture of iodoform and albumen.

**Iodoformum** (Iodoform). **Extern.,** antiseptic in wounds and ulcers. Use alone or combine with acid boric, tannin, etc. (1 : 3); ether 1 : 10; collodion 1 : 10-15; ointment 1 : 5-10.

***Iodolum.** Substitute for iodoform.

***Iodothyrin** cf glandulae.

**Iodum** (Iodin). **Extern.,** parasiticide, antiseptic, counter-irritant. Use in form of tinct., ointment (1 : 5-15), petrox mixtures, iodipin, or Lugol's solution. PREPARATIONS: *Liquor Iodi Compositus* (Lugol's Solution). Iodin 5, potassium iodid 10, aqua 100. Intraglandular injection in goitre. *Tinctura Iodi* (Tincture of Iodin).

℞ 1
Iodi
Camphorae
Potassii iodi aa ʒii
Alcoholis ʒiv.
M. Sig. Apply daily on wind-puffs, chronic tendinitis, etc.

**Ipecacuanha** (Ipecac). 2% alkaloids (emetin, cephalin, psychotrin). **Intern.,** sedative expectorant in acute bronchitis; emetic (swine, cat, dog); diaphoretic in the beginning of acute respiratory diseases. **Emetic:** Sw. & D. gr. 15-45 (1.-3.); Cat, gr. 4-12 (0.25-0.75). **Expectorant: H. & C.** 3 1-2½ (5-10.); D. gr. 1/6-3/4 (0.01-0.05); Sw. gr. 1½-4 (0.1-0.3); Cat, gr. 1/6 (0.01.). PREPARATIONS: *Pulvis Ipecacuanhae et Opii* (Dover's Powder). Gastro-intestinal catarrh or bronchitis in dogs. D. gr. 4½-30 (0.3-2). *Vinum Ipecacuanhae.* Expectorant in dogs ♏. 5-10; emetic, 3 1-2.

℞ 1
Vini ipecacuanhae 3 iiss
Potassii citratis 3 iii
Tinct. opii camphoratae
Syrupi aa ʒ i
Aquae q.s. ʒ vi.
M. Sig. 30 drops every 3 hours as expectorant in dog.

℞ 2
Ipecacuanhae gr. iii
Sodii bicarbonatis gr. xxiv
Sacchari lactis 3 iss.
M. Ft. chartulae No. vi.
Sig. Two powders daily in beginning dog distemper.

**Iron** cf ferri.

**Jalapa** (Jalap). **Intern.**, cathartic in small doses in dropsical effusions, combine with saline or calomel. Dose: cathartic; Sw. 3 1-3 (4.-12.); D. gr. 7½-60 (0.5-4.).

**Jamestown Weed** cf stramonium.

**Jasmine** cf gelsemium.

***Juniperus** (Juniper). **Intern.**, diuretic, stomachic, stimulant expectorant in bronchitis, carminative. **H.** ʒ 1-2 (30.-60.); **C.** ʒ 2-3 (60.-90.); **Sh.** 3 1-5 (5.-20.); D. gr. 15-60 (1.-4.). See ℞ 3 pg. 9. **Prep**: *Oleum Juniperi.* **Uses**: as oleum terebinthinae.

***Kamala.** Drastic taeniacide; action in 5 hours. Lambs 3 1 (4.); Sw. & D. 3 ½-2 (2.-8.). Administer with milk, honey, or syrup; through stomach-tube in dog and cat. ℞ 6 pg. 9; cf areca ℞ 2.

***Kaolinum N. F.** (Kaolin; Fuller's Earth; Aluminum Silicate). Protectant on wounds and skin in powder, paste, or ointment. See cataplasma kaolini.

**Kino** cf gambir.

**Lanolin** cf adeps lanae hydrosus.

**Lard** cf adeps.

**Laudanum cf opii tinct.**

**Lead cf plumbi.**

**Licorice Root cf glycyrrhiza.**

**Lime cf calx.**

**Lime Water cf calx.**

***Linimentum Aconiti et Chloroformi N.F.** F. E. Aconite 4½, alcohol 8, chloroform 12½, soap liniment 75.

**Linimentum Ammoniae.** Ammonia water 25, sesame oil 75. ℞ 1—Aq. ammon. fort. 1, ol. tereb. 1, aqua 1, ol. lini 4-6. ℞ 2—Aq. ammon. fort. 1, ol. lini 5-10. ℞ 3—Aq. ammon. fort. 1, linimentum saponis 4 (pharyngitis, etc.). ℞ 4—Aq. ammon. 30, camphorated oil 70. ℞ 5—Aq. ammon. 1, chloroform 1, cottonseed oil 4.

**Linimentum Belladonnae.** Camphor 5, F. E. belladonna root to 100. ℞ 1—F. E. belladonna 10, alcohol 10, camphor 5. ℞ 2—Extract belladonna 1, petrolati 4, camphor ½. ℞ 3—Extract belladonna 1, glycerin 1.

**Linimentum Calcis.** Lime water 50, ol. lini 50.

**Linimentum Camphorae** (Camphorated Oil). Camphor 2, cottonseed oil 8. **Linimentum Saponato-Camphoratum N.F.* (Opodeldoc). Monobromated sodium carbonate 10, stearic acid 50, water 100, camphor 25, oil of thyme 3, oil of rosemary 6, ammonia water 50, alcohol to make 1000. British Pharmacopoeia: aq. ammon. fort. 10, camphor 5, lavender 0.25, alcohol to 40. *Hertwig:* sapo mollis 4, camphor 1, alcohol 8, aqua ammon. 2.

***Linimentum Cantharidis.** Cantharides 15, ol. tereb. to 100; digest over water-bath 3 hours, strain, add oil turpentine to make 100 cc.

**Linimentum Chloroformi.** Chloroform 30, soap liniment 70. B.P.: camphor liniment (1 : 3) 1, chloroform 1.

***Linimentum Exsiccans** (Pick). Tragacanth 5, glycerin 2, water 100. Protectant in painful skin diseases.

℞ 1
Linimenti exsiccans 95
Picis liquidae 5.
M.

**Linimentum Saponis** (Soap Liniment). Green soap 60, camphor 45, ol. rosemary 10, alcohol 700, water to make 1000.

***Linimentum Sinapis B.P.** Ol. mustard 2, camphor 3, castor oil 7, alcohol 43. **Spiritus Sinapis.* Ol. mustard 1, alcohol 10-15. Rubefacient in pneumonia, pharyngitis, etc.

**Linimentum Terebinthinae.** Rosin cerate 65, ol. turpentine 35. **Linimentum Terebinthinae Acetum N.F.* (Stokes Liniment). Ol. turpentine 100, one egg, Ol. lemon 4, acetic acid 20, rose water 85. ℞ 1—Ol. terebinthinae 1, linimentum saponis 8.

***Linimentum Tiglii N.F.** Croton oil 4, cajuput oil 14, alcohol 14. **Linimentum Tiglii Compositum N.F.* Croton oil 20, ol. sassafras 20, ol. turpentine 20, olive oil 40. **Caustic Balsam.* Croton oil 8, linseed oil 36, ol. turpentine 4, camphor 2, petrolatum 6, sulphuric acid 0.5.

**Linum** (Linseed Meal; Flaxseed Meal). *Demulcent* in the form of linseed water (℞ 11, pg. 10) per os in gastro-enteritis, or as clysters in rectal irritation; useful vehicle in the administration of irritating drugs (creolin, ammonia).

**Liquor Acidi Arsenosi** cf arseni trioxidum.

***Liquor Alumini Acetatis N.F.** Lead acetate 150, aluminum sulphate 85, water to make 1000. **Intern.**, intestinal astringent in diarrhea. **H. & C.** ʒ 1-4 (4.-15.) in water. **Extern.**, wounds, moist and gangrenous dermatitis. In 2-4% solution. Genito-urinary tract in 1-2% solution.

℞ 1
Zinci oxidi
Amyli
Glycerini aa 20
Liq. alum. acet.
Aq. destil. aa 60.
M. Sig. Shake before using (Schindelka).

**Liquor Ammonii Acetatis** (Spirit of Mindererus; Ammonium Acetate Solution). Ammonium carbonate 5, dilute acetic acid 100. Feeble diaphoretic and diuretic. Used in febrile diseases as vehicle for spirit of nitrous ether or aconite. **H. & C.** ʒ 2-6 (60.-180.); Sh. & Sw. ʒ ½-1 (15.-30.); D. ʒ 1-4 (4.-15.). **Liq. Ammon. Acetatis Concentratus.* Three times the above strength.

***Liquor Antisepticus N.F.** Mild alcoholic solution of boric acid, salicylates, etc.

**Liquor Calcis** cf calx.

***Liquor Calcis Sulphuratae** cf sulphur sublimatum.

**Liquor Cresolis Compositus** (Compound Solution of Cresol). Cresol 500, linseed oil 300, potassium hydroxid 80, alcohol 30, water to make 1000. Or as follows: take of cresol 500 cc.; sapo mollis 612 gm.; mix, by aid of gentle heat, in water bath. Practically identical with lysol. Germicidal value about

50% greater than phenol. **Stable disinfectant** in 3-5% aqueous solution. **Extern.**, wounds, skin, and hands 1-2%. See cresol.

**Liquor Ferri Chloridi** cf ferri chloridi.

**Liquor Ferri Subsulphatis** (Solution of Ferric Sulphate) cf ferri hydroxidum cum magnesii oxido.

**Liquor Hydrogenii Dioxidi** (Hydrogen Peroxid; $H_2O_2$). 3% solution. **Extern.**, for cleansing fistulae, deep abscesses, filthy wounds, etc.; weak antiseptic. Do not inject into closed cavities.

**Liquor Potassii Arsenitis** cf arseni trioxidum.

**Litharge** (Lead Oxid) cf plumbi acetas.

**Lobelia.** Motor depressant. **Intern.**, antispasmodic in heaves and bronchitis; expectorant and diaphoretic. **H. & C.** ʒ 1-8 (4.-30.); Sh. & Sw. ʒ ½-2 (2.-8.); D. gr. ½-20 (0.03-1.3). PREPARATIONS: *Fluidextractum Lobeliae. Dose:* as lobelia. *Tinctura Lobeliae.* **H. & C.** ℥ 1-2 (30.-60.); Sh. & Sw. ʒ 1-3 (4.-12.); D. ♏. 3-30 (0.2-2.).

℞ 1
F.E. lobeliae
F.E. stramonii aa ℥ i
Liquor potassii arsenitis q.s. ℥ viii.
M. Sig. Tablespoonful 2-3 times daily for a horse with heaves.

**Lugol's Solution** cf iodin.

**Lunar Caustic** cf argenti nitras.

**Lycopodium.** Protective dusting-powder.

***Lysol.** Practically identical with liquor cresolis compositus. See cresol and liq. cresolis compositus.

**Magnesii Carbonas** (Magnesium Carbonate). Alkali in gastro-intestinal fermentation; antidote in

poisoning with acid, arsenic, and metallic salts. Insoluble in water. H. & C. 3 2½-6 (10.-25.); Sh. & Sw. 3 1-2½ (5.-10.); D. gr. 3-15 (0.2-1.).

**Magnesii Oxidum** (Magnesium Oxid; MgO). *Arsenic Antidote.* **Intern.**, in poisoning with arsenic, acids, and metallic salts; antacid and mild laxative. H. & C. 3 2½-6 (10.-25.); Sh. & Sw. 3 1-2½ (5.-10.); D. gr. 3-15 (0.2-1.). **Extern.**, protectant and desiccant on wounds.

**Magnesii Sulphas** (Epsom Salt). Uses: as sodii sulphas.

**Male Fern** cf aspidium.

***Mallein.** Bouillon containing products of growth of B. Mallei. Uses and action, Hutyra & Marek, Vol. I: "A very sensitive and reliable diagnostic agent. Inject 2 cc. per subcutis in horses with a normal temperature. Those affected with glanders show a sudden rise of temperature in 4-8 hours that continues for 8-14, sometimes 16-30 hours, gradually returning to normal; chills are common between the sixth and eighth hours. Well animals do not react. A reaction is **positive:** A. When the temperature rises 3.6° F. or more, and above 104°; or B. When the temperature rises 2.6°-3.5°, reaching 103°-103.8°, in addition to a marked organic reaction (increased pulse and respiration, chills, anorexia, depression, and a marked circumscribed inflammatory edematous swelling at the seat of injection). A reaction is **doubtful:** With a rise of 1.8°-3.5° and no signs of an organic reaction. A reaction is **atypical:** When the temperature stays up not more than 4-6 hours. A reaction is **negative:** With a rise of not more than 1.8°; or when the temperature does not exceed 102.2°.

A positive reaction indicates glanders. A doubtful or atypical reaction indicates 'suspected glanders,' when the animal should be retested in about 4 weeks." The intradermal palpebral test has largely superseded the subcutaneous method, especially in the army.

**Mandrake** cf podophyllum.

**Mel** (Honey). Used as an electuary or vehicle in giving medicine, useful in pharyngitis.

**Menthol** (Peppermint Camphor). Local anesthetic and antiseptic in dusting-powders, ointments, or inhalants. **Intern.**, antispasmodic, carminative, and analgesic in colic. **H.** gr. 7-15 (0.5-1.); **D.** gr. ½-2 (0.03-0.12).

℞ 1
Mentholis
Eucalyptolis aa ʒi
Alcoholis ʒii
Liq. cresolis comp. ʒv
Aquae q.s. ʒviii.
M. Ft. sol.
Sig. ½ ounce in hot water as inhalant in strangles.

℞ 2
Mentholis ʒi
Alcoholis ʒi.
M. Sig. For pruritus.

℞ 3
Ol. olivae
Aq. calcis aa ʒi
Mentholis ʒi.
M. Sig. Apply to burns.

℞ 4
Mentholis 2.5
Ol. olivae 7.5
Petrolati q.s. 50.0.
M. Menthol ointment (Joseph).

℞ 5
Mentholis 3-5
Alcoholis q.s. 100.
M. Spirits of menthol (Joseph).

℞ 6
Mentholis 2
Amyli 120
Talci 20.
M. Sig. Menthol powder (Schindelka).

**Mercury cf hydrargyrum.**

**Methylis Salicylas** (Artificial Oil of Wintergreen). Yellowish liquid almost identical with ol. betulae and ol. gaultheria. **Extern.**, antiseptic in ringworm and other skin diseases. Use with equal parts alcohol, or in oint. (1%). **Intern.**, as aromatic oils, and salicylic acid. **H. & C.** ʒ 2-8 (8.-30.); Sh. & Sw. ʒ ½-1 (2.-4.); D. ♏. 5-15 (0.3-1.).

℞ 1
Methylis salicylatis ʒ iv
Lin. aconiti et chloroformi ʒ iii.
M. Sig. Rub in every 1-2 hours for rheumatism.

***Mistura Contra Diarrhoeum.** "Sun Cholera Cure": equal parts tinct. opii, tr. capsicum, tr. rhubarb, tr. camphor, and tr. peppermint. Dose: ʒ 1-5 (4.-20.) for dysentery in foals and calves.

**Morphinae Sulphas** (Morphin Sulphate). Anesthetic and hypnotic. Specific in eclampsia in bitches; useful in painful cough (see aqua amygdalae amarae). Action uncertain in cattle. Dose of more than 7 grains dangerous in the horse (excitation of morphin poisoning). Do not combine with arecolin or eserin in colic. **Not safe to combine with atropin** (fatal impaction). Hypnotic in dogs (surgical operations). Hypnotic dose, dog: gr. 1/60 (young)-1/7 (old) per lb. body-weight. Sedative dose: **H. & C.** gr. 3-6 (0.2-0.4); D. gr. ¼-1½ (0.02-0.1) in aqueous solution of 1 : 25-50. **Heroinum* (Diacetyl-morphin). Sedative in cough, pharyngitis, laryngitis, etc.—see belladonna. **H. & C.** gr. ½-2 (0.03-0.13); Sh. & Sw. gr. ⅛-¼ (0.008-0.016); D. gr. 1/30-1/8 (0.002-0.008). *Aethylmorphinae Hydrochloridum* (Dionin). Used to remove corneal opacities. Apply 10% sol., or the powder.

℞ 1
Heroini hydrochloridi gr. viii
F. E. hyoscyami ʒ i
Antimonii et potassii tartratis 3 iv
Syrupi q.s. O i.
M. Sig. ½-1 ounce for a horse with acute laryngitis or pharyngitis.

℞ 2
Heroini hydrochlor. gr. viii
F. E. belladonnae ʒ i
Ammonii chloridi ʒ iii
Syrupi q.s. O i.
M. Sig. One ounce every two hours for a horse with cough.

**Mustard** cf sinapis.

**Myrrha** (Myrrh). Gum-resin. Stimulating antiseptic on badly granulating wounds, as dusting-powder, or tincture. PREP: *Tinctura Myrrhae.* Often combined with equal parts tinct. aloes.

***Naphthalinum** (Naphthalin; Tar Camphor). **Extern.**, antiseptic dusting-powder alone or combined with boric acid, alum, starch, talcum, etc. (1:10-20). In ointment (1:10-20); oil (1:3-5). Useful in wounds, parasitism (mange, ringworm), chronic eczema, pruritus, and against *flies.* **Intern.**, gastro-intestinal catarrh (diarrhea in calves) and cystic catarrh; expectorant in bronchitis. Overdosage causes hemoglobinuria and nephritis (ʒ 1). Dose: **H. & C.** 3 1-2 (4.-8.); **Sh. & Sw.** 3 ½-1 (2.-5.); **D.** gr. 1½-15 (0.1-1.). Administer in powder, pill, or electuary.

**Naphthol** cf betanaphthol.

**Nitroglycerin** cf spiritus.

**Nitrous Ether** cf spiritus.

***Novocain.** Local anesthetic, soluble, non-irritating. Use in 1-2% solution for infiltration, adrenalin assists action (novocain gr. 4; water 3 2-3; adrenalin 1:1000 ♏. 5-10). Eye-operations in 5-10% solution.

**Nux Vomica.** Seed of Strychnos Nux Vomica. 1.25% strychnin. *Spinal cord excitant* in paresis of depression, exhaustion, chloroform or narcotic poison-

ing; paralysis of motor nerves (facial, recurrent, incontinence, constipation); paralysis of sensory nerves (first stage of amaurosis). Contraindicated in lesions or inflammation of the cord. *Circulatory stimulant:* combine with alcohol or digitalis in acute heart weakness of acute diseases—pneumonia. *Respiratory stimulant:* chronic bronchitis, pneumonia, pulmonary edema. *Stomachic:* atony of the stomach or intestine (tincture). *Cumulative:* omit every third day when dosage is near maximum. **H. & C.** 3 ½-2 (2.-8.); Sh. & Sw. gr. 10-20 (0.6-1.3); D. gr. 1-2 (0.06-0.13). PREPARATIONS: *Fluidextractum Nucis Vomicae.* 1% strychnin. Dose: as nux vomica. *Tinctura Nucis Vomicae.* 0.1% strychnin. **H. & C.** 3 1-6 (5.-25.); Sh. & Sw. ♏. 20-40 (1.3-2.6); D. ♏. 5-15 (0.3-1.). *Strychninae Sulphas* (Strychnin Sulphate). **Dose per os: H. & C.** gr. ¾-1½ (0.05-0.1); Sh. gr. 1/12 (0.005); Sw. gr. 1/30-1/12 (0.002-0.005); D. gr. 1/60-1/20 (0.001-0.003); Cat, gr. 1/120-1/60 (0.0005-0.001); Fowl, gr. 1/60-1/30 (0.001-0.002). **Dose per subcutis:** one-half that per os. **Per trachea:** one-fourth per os. Estimate 1/12-1/15 of a grain per subcutis for 100 pounds body-weight. See ℞ 4, pg. 9, and Gentiana, pg. 49. *Strychnin and arsenic solution:* 1. Arsenic trioxid gm. 5, acid hydrochloric dil. gm. 3, water to make 50 cc. 2. Water 980, acid hydrochlor. dil. 20, strychnin sulphate 10, heat. Combine equal parts of 1 and 2 for a one-half per cent. solution of each.

℞ 1

| | |
|---|---|
| Strychninae sulphatis | gr. vi |
| Digitalini Germanici | gr. ix |
| Atropinae sulphatis | gr. ii |
| Aquae q.s. | ℥ ii. |

M. Sig. 5 cc. per subcutis for a horse or cow with great circulatory depression. ½ cc. for a large dog.

***Oleata.** Solutions of metallic alkalies, or alkaloids in oleic acid.

***Oleatum Cupri** cf cupri.

**Oleoresina Aspidii** cf aspidium.

**Oleum Anisi** (Oil of Anise). **Intern.,** carminative in spasmodic colic in dogs (1-5 drops). **Extern.,** with alcohol or oil for lice on dogs (♏. 10-20 : 3 3-4). A few drops under the wings of birds for mites, and lice (1:50-100 alcohol).

**Oleum Betulae** (Oil of Sweet Birch). See methylis salicylas.

**Oleum Cadinum** (Oil of Cade; Juniper Tar Oil). Action very similar to oil of tar. Stimulant antiseptic in chronic eczema and other skin diseases (parasitic). Ointment 1:3; or alcoholic solution ½-1:1. See sulphur sublimatum ℞ 3.

**Oleum Chenopodii.** A volatile oil obtained from American wormseed, and used as a substitute for thymol and santonin. Dose: *Strongylidae in equines:* fast 36 hours, administer 16-18 cc., follow with a quart of oil. *Ascarids and hookworm* in dogs: administer castor oil, fast 24 hours, give 0.1 cc. of chenopodium and chloroform per lb. of weight in an ounce of castor oil. *Ascarids in swine:* give an ounce of salts in the feed, fast 24 hours, administer 1 cc. of chenopodium in an ounce of castor oil for pigs weighing from 25 to 60 lbs.

**Oleum Gaultheriae** cf methylis salicylas.

**Oleum Gossypii Seminis** (Cottonseed Oil). **Uses:** as oleum lini.

**Oleum Juniperi** cf juniperus.

**Oleum Lini** (Linseed Oil). **Intern.,** protectant in gastro-enteritis and caustic poisons; mild laxative.

H. & C. ʒ 8-32 (250.-1000.); Sh. & Sw. ʒ 1-4 (30.-120.); D. ʒ 1-3 (30.-90.). **Extern.**, protectant in clysters; solvent in liniments and ointments; protective emollient allaying irritation in inflammatory skin diseases.

℞ 1
Ol. lini
Liq. calcis aa.
M. Carron oil for burns.

**Oleum Olivae** (Olive Oil): uses as oleum lini.

**Oleum Picis Liquidae Rectificatum** cf pix liquida.

**Oleum Pini** (Oil of Pine Needles). This and various substitutes are used externally as mild disinfectants and internally as anti-ferments in tympany. Dose: H. & C. ʒ i-ii.

**Oleum Ricini** (Castor Oil). Non-irritating cathartic in gastro-enteritis, dysentery, dog distemper, acute inflammatory conditions of the intestines. H. & C. ʒ 16-32 (500.-1000.); Sh. & Sw. ʒ 2-8 (50.-250.); D. ʒ ½-1½ (15.-45.); Cat, ʒ 1-3 (5.-15.). *Administration:* H. & C. with equal parts liquid petrolatum or 2 oz. ether. Dog and cat in emulsion with 5-10 parts water, or peppermint water, or in gelatin capsules. Swine as electuary with glycyrrhiza or molasses.

**Oleum Rosmarini** (Oil of Rosemary). Rubefacient in liniments and ointments (1:10-20).

**Oleum Santali** (Oil of Sandalwood). Expectorant, antiseptic, and sedative in acute pharyngitis, bronchitis, cystitis, etc. D. ♏. 15-20 in emulsion or capsule.

**Oleum Sesami.** Used in linimentum ammoniae.

**Oleum Sinapis Volatile** cf sinapis.

**Oleum Terebinthinae** (Oil of Turpentine; Spirits of Turpentine). Volatile oil distilled from terebinthina. **Intern.**, carminative and antispasmodic in

colic (per os, or rectum—½ oz. in a quart of soapy water). Expectorant in subacute and chronic bronchitis and cystitis; hemostatic, circulatory stimulant and diuretic in purpura. Anthelmintic combined with oil. Deodorant in pulmonary gangrene. Daily dose: C. ʒ 1-10 (25.-250.); H. ʒ ½-3 (10.-100.); Sh. & Sw. 3 1-6 (5.-25.); D. ♏. 3-30 (0.2-2.); Cat, ♏. ¾-4 (0.05-0.25). Administration: oil, emulsion, capsule, electuary, inhalation (1-5% aqueous sol.), intratracheal injection (lung worms 1:1-10 of oil). Extern., rubefacient in pneumonia, pleurisy, enteritis, stagnation edema, phlegmon. PREPARATIONS: *Linimentum Terebinthinae* 35%. *Terebenum*. Colorless liquid. Uses: as ol. turpentine. Very useful in bronchitis. H. 3 1-2 (4.-8.). *Terpini Hydras*. White crystals. Uses: as terebene (weaker). H. 3 ½-1 (2.-4.).

℞ 1
Terebeni
Eucalyptolis aa ʒ ii
Syrupi q.s. O i.
M. Sig. One ounce every two hours for a horse; 15-30 drops for a dog.

℞ 2
Ol. terebinthinae ʒ iiss
Acaciae ʒ v
Aquae ʒ x.
M. Ft. emulsio.
Sig. Tablespoonful thrice daily for a dog (Fröhner).

℞ 3
Ol. terebinthinae
Ol. pini
Petrolati liq. aa.
M. Sig. One ounce every one to two hours in acute indigestion or colic.

**Oleum Theobromatis** (Cacao Butter). **Used in** suppositories, ointments and pills (areca nut).

**Oleum Tiglii** (Croton Oil). Yellow liquid. **Soluble in absolute alcohol, ether, chloroform, and oils.**

**Intern.,** drastic purgative in chronic constipation and impaction in cows; strength increases with age; contraindicated in enteritis and weakness. **H.** ℥. 10-20; **C.** ℥. 15-30; Sh. & Sw. ℥. 5-10; D. ℥. 1-5; Cat, ℥. ¼-1. Administer in castor oil or mucilaginous liquid. **Extern.,** rubefacient: 10 drops in 1-2 oz. oil turpentine, olive oil, or lard. See linimentum tiglii for *Caustic Balsam.*

| ℞ 1 | ℞ 2 |
|---|---|
| Ol. tiglii ℥. xv | Ol. tiglii gr. ¾ |
| Hydrargyri chloridi mite 3 i | Hydrargyri chloridi mite gr. ivss |
| Ol. ricini O i. | Sacchari lactis 3 ii. |
| M. Sig. Shake and give to a horse with impaction. | M. Ft. chartulae No. v. Sig. One powder for a dog every 3 hours until evacuations are abundant. |

**Opii Pulvis** (Powdered Opium). 12-15% morphin. **Intern.,** analgesic in pleurisy, peritonitis, etc.; antispasmodic in peripheral irritation (cough); *checks excessive secretions and suppresses peristalsis in acute inflammatory affections of the bowel after removal of the irritant* (intestinal catarrh, enteritis, dysentery); diaphoretic in early stages of distemper and influenza (Dover's Powder). **H.** 3 1-5 (5.-20.); **C.** 3 2½-6 (10.-25.); Sh., Sw., Foals, and Calves, gr. 15-45 (1.-3.); D. gr. 2-8 (0.1-0.5); Cat, gr. ¾-3 (0.05-0.2). PREPARATIONS: *Tinctura Opii* (Laudanum). 10% opium. Dose: **H. & C.** ʒ ½-2 (15.-60.); Calves and Foals 3 1-5 (5.-20.) 2-3 times daily for dysentery. *Pulvis Ipecacuanhae et Opii* (Dover's Powder). Ipecac 10, powdered opium 10, sugar of milk 80. **H. & C.** ʒ ½-1 (15.-30.); Sh. & Sw. 3 ½-1 (2.-4.); D. gr. 5-10 (0.3-0.6). See morphina and mistura.

℞ 1
Opii 3 iiss
Sodii bicarbonatis ʒ iii
Sodii chloridi ʒ vi.
M. Sig. Tablespoonful thrice daily for a horse or cow with acute intestinal catarrh and diarrhea. Teaspoonful thrice daily to a sow for diarrhea in suckling pigs (v.k.)

℞ 2
Opii 3 ii
Hydrargyri chloridi mite 3 i.
Althaeae q.s. massa.
M. Ft. bolus.
Sig. For a horse with acute intestinal catarrh (influenza).

℞ 3
Opii
Rhei aa 3 iss
M. Ft. chartulae No. iii.
Sig. One powder daily in mucilaginous drink for a calf with diarrhea.

℞ 4
Tincturae opii 3 i
Acidi tannici gr. xxx
Spiritus frumenti 3 i.
M. Sig. Give to a foal in 8 ounces linseed meal water.

℞ 5
Opii 3 i
Althaeae 3 v.
M. Ft. chart. No. iv.
Sig. One every 3 hours for a foal (Fröhner).

℞ 6
Opii gr. xxx
Magnesii carbonatis 3 i
Rhei 3 iiss.
M. Sig. For a calf with diarrhea, repeat once (Hertwig).

*Opodeldoc cf linimentum camphorae.

**Pepsinum** (Pepsin). Yellowish-white powder; ferment obtained from glandular layer of fresh stomach of pig. Digestant, less efficient than pancreatin, and both are inferior to dilute hydrochloric acid and bitters (Stevens). D. gr. 5-10 (0.3-1.3).

**Peroxide** cf liquor hydrogenii peroxid.

**Petrolatum** (Paraffin; Cosmolin; Vaselin). Protectant and emollient; substitute for animal and vegetable fats in ointments; less penetrating than

lard. FORMS: *Petrolatum* (white); *Petrolatum Liquidum* (Liquid).

***Petrox** cf petroxolinum.

***Petroxolinum Liquidum N.F.** (Liquid Petrox). Very similar to vasogen. Liquid petrolatum 50, oleic acid 28, oil of lavender 2, stronger ammonia water 5, alcohol 15. Penetrating solvent of iodin, salicylic acid, tar, etc. Forms permanent emulsion with water. Combine with camphor or chloroform equal parts; creolin (50%); ichthyol, iodin, creosote, betanaphthol, salicylic acid (10%) creosote, tar, turpentine, eucalyptol (25%); camphor, quicksilver (33 1/3%); iodin, iodoform, sulphur, thiol (5%); menthol, pyoktanin (2%).

**Petroxolinum Spissum N.F.** (Solid Petrox). Valuable base for ointments (Hydrargyrum 50%).

**Phenacetin** cf acetphenetidinum.

**Phenol** (Carbolic Acid). Colorless needle-shaped crystals, reddish on exposure to light. Soluble in 20 parts water. **Extern.,** disinfectant in badly suppurating ulcers and fistulae (inject phenol liquefactum followed in 1-2 minutes with alcohol); local sedative and antipruritic in eczema and *pruritus* (3 2-3:pint 1); antiseptic compress 5%; subcutaneous and parenchymatous injection in acute phlegmon (2%). **Intern.,** *tetanus:* 10 cc. of 2-3% solution several times daily; bandage the region of the wound with 3-5% solution; give clysters of 1-2% solution; efficiency doubtful. Antiferment, antiseptic, and analgesic in tympany, indigestion, and diarrhea. **H. & C.** 3 1-2½ (5.-10.); Sh., Sw., and D. gr. ¾-3 (0.05-0.2). Administer in emulsion (milk, oil, mucilaginous drink), or capsule. **Stable disinfectant:** 3-5% aqueous solution (less active in whitewash); or mix with whitewash,

or chlorinated lime solution to a 5% strength; or mix with equal parts crude sulphuric acid and use in 2½ to 5% aqueous solution (very active). PREPARATIONS: *Phenol Liquefactum* 86.4%; *Glyceritum Phenolis* 20%; *Unguentum Phenolis* 3%.

| ℞ 1 | | ℞ 2 | |
|---|---|---|---|
| Phenolis | ʒ ii-iii | Phenolis | |
| Acidi borici | ʒ iv | Tinct. iodi | aa ʒ iii |
| Alcoholis | ℥ i | Aquae q.s. | O i. |
| Glycerini | ℥ ss | M. Sig. For dry eczema. | |
| Aquae q.s. | O i. | | |
| M. Sig. For eczema and pruritus (Stevens). | | | |

**Phenolsulphonates** cf sodii and zinci phenolsulphonas.

**Phenylis Salicylas** (Salol). White powd. Soluble in 5 parts alcohol, readily in oils. **Intern.**, intestinal antiseptic in bowel catarrh or fermentation, cystitis. Daily dose: **H. & C.** ℥ 2-3 (60.-90.); Sh. & Sw. ʒ 2½ (10.); D. gr. 15-60 (1.-4.). See bismuthi subnitras ℞ 1.

℞ 1
Phenylis salicylatis ʒ iss
Decocti uvae ursi ℥ vi.
M. Sig. Tablespoonful thrice daily for a dog with cystitis.

**Phosphorus.** Yellowish waxy material, 99.5% phosphorus. Soluble in oils. **Intern.**, nerve tonic; used in rachitis and osteomalacia (efficiency doubtful); promotes callus formation in fractures. **H. & C.** gr. 1/6-3/4 (0.01-0.05); D. gr. 1/120-1/32 (0.0005-0.002). Administer in solution of oil. PREP: *Pilulae Phosphori* (1/100 gr.).

**Physostigminae Salicylas** (Eserin Salicylate). **Intern.**, cathartic in impaction and indigestion; con-

traindicated in dyspnea or tympany. **H.** gr. ½-1 (0.03-0.065); **C.** gr. 1-2 (0.065-0.13). Per subcutis. Repeat in ¾ to 2 hours according to symptoms (pulse, distress). Antidote: atropin. **Extern.,** in ophthalmology to decrease intraocular pressure and contract pupil in periodic ophthalmia where it is sometimes alternated with atropin.

| | |
|---|---|
| ℞ 1 | ℞ 2 |
| Physostigminae salicylatis gr. ss | Physostigminae salicylatis gr. iii |
| Aquae destil. ʒ i. | Aquae destil. ʒ i. |
| M. Sig. Two drops daily in the eye of a dog with hydrophthalmus. | M. Sig. Inject into the eye once daily as a myotic in periodic ophthalmia. |

***Phytolacca** (Poke Root; Garget). Emetic and alterative. Said to decrease the milk flow in mastitis. **H. & C.** ʒ 1 (30.) 3-4 times daily. See veratrum.

**Pilocarpinae Hydrochloridum.** Crystalline alkaloid. Freely soluble in water. Laxative in impactions or torpidity (combine with eserin); diaphoretic in acute laminitis. **H.** gr. 4-7 (0.3-0.5); **C.** gr. 7-12 (0.5-0.8). Expectorant and diaphoretic in first stage of acute fevers. **H. & C.** gr. 1½-3 (0.1-0.2); Sh. & Sw. gr. 1/3 (0.02); D. gr. 1/12-1/3 (0.005-0.02); Cat, gr. 1/60-1/20 (0.001-0.003). *Contraindications:* chronic diseases of the heart and lungs, pharyngitis, tetanus.

**Pituitary Body.** PREPARATION: *Liquor Hypophysis.* Sold as pituitary extract, solution, liquid; pituitrin, etc. Prepared from the posterior lobe of the pituitary body of cattle. Used to stimulate uterine contractions in metritis in cows: 2-5 cc. per subcutis, repeated two or three times as indicated; 8-10 mils. to promote uterine contractions. Contraindicated in dystocia when the os is closed.

***Pix Burgundica.** Rubefacient, used in blisters. See cantharides.

**Pix Liquida** (Pine Tar). Soluble in alcohol, oil, and alkaline solutions. **Intern.**, expectorant in chronic bronchitis and pharyngitis per os or inhalation; stomachic in ruminants in gastric catarrh and diarrhea. **H. & C.** 3 2½-6 (10.-25.); Sh. & Sw. 3 ½-1 (2.-5.); D. gr. 1/10-1 (0.006-0.065). Administer in capsule, or in 7 parts syrup. **Extern.**, antiseptic in chronic eczema (alone, in alcohol, ointment, or sapo mollis), foot-rot, and against flies. Used in making tar bandages. PREPARATIONS: *Oleum Picis Liquidae rectificatum. Unguentum Picis Liquidae. *Syrupus Pini Strobi Compositus N.F.* (Compound Syrup of White Pine).

℞ 1
Acidi salicylici
Creolini aa ʒ iv
Picis liquidae
Sulphuris sublimati aa ʒ ii
Olei gossypii q.s. O i.
M. Sig. For eczema and mange.

℞ 2
Picis liquidae
Sapo mollis aa ʒ ii
Alcoholis ʒ i.
M. Sig. Tar liniment in chronic eczema (Fröhner).

℞ 3
Picis liquidae
Sulphuris sublimati aa ʒ iii
Sapo mollis
Alcoholis aa ʒ vi.
M. Vienna tar liniment for mange in a horse.

℞ 4
Acidi salicylici 5
Picis liquidae 25
Sapo mollis 150.
M.

℞ 5
Picis liquidae ʒ viii
Potassii hydroxidi ʒ iv
Aquae ʒ xx.
M. Liquor Picis Alkalinus N.F.

**Plumbi Acetas** (Lead Acetate; Sugar of Lead). Crystals or powder. Soluble in 3 parts water, 5 glycerin, 30 alcohol. **Intern.**, astringent in diarrhea, gastro-intestinal hemorrhage, acute nephritis. **H.** 3 ½-1½ (2.-6.); **C.** gr. 15-45 (1.-3.); **Sh. & Sw.** gr. 4-15 (0.3-1.); **D.** gr. ¾-4 (0.05-0.3). 1-2 times daily in electuary or solution. **Extern.**, sedative and astringent antiseptic on bruises, wounds, scratches, etc. (5-10%). PREP: *Liquor Plumbi Subacetatis* (Goulard's extract). Lead acetate 18, lead oxid 11, water to 100. Useful in scratches, contusions, and acute skin diseases (1:4-8 ointment, or lard oil). Eyewash in 1-3% aqueous solution. Do not use on corneal injuries. *Liquor Plumbi Subacetatis Dilutus* (4% aqueous solution of Goulard's extract). See alumen ℞ 1 for Burrow's solution.

℞ 1
Zinci sulphatis 3 vi
Plumbi acetatis ʒ i
Aquae O i.
M. "White Lotion" for scratches, abrasions, galls, and bruises.

℞ 2
Talci
Zinci oxidi
Amyli
Glycerini aa 5
Liq. plumbi subacetatis diluti q.s. 100.
Sig. Shake before using (Schindelka).

**Plumbi Iodidum N.F.** (Lead Iodid). Heavy powder. Desiccant in thrush; promotes horn growth on exposed fleshy frog; effective in first stage of canker. PREP: *Unguentum Plumbi Iodidi N.F.* (10%); resorbent in non-suppurative adenitis.

℞ 1
Sodii iodidi 3 i
Plumbi iodidi
Ol. olivae aa 3 iiss.
M. Ft. unguentum.
Sig. Apply under bandage in pustular dermatitis of the extremities of the dog, specific (V.K.)

**Plumbi Oxidum** cf liquor plumbi subacetatis.

**Podophyllum** (Mandrake; May Apple). Dried rhizome. Drastic cathartic. **H.** 3 1-2½ (5.-10.); **C.** 3 2-4 (8.-15.); D. gr. 1½-4 (0.1-0.25). PREPARATION: *Resina Podophylli* (Podophyllin). D. gr. 1/12-1/8 thrice daily.

**Potassii Acetas** (Potassium Acetate). Soluble in 0.4 parts water. **Intern.**, diuretic and resolvent in dropsical effusions (hydrothorax, ascites); useful and non-irritating potash salt; action about the same as sodium bicarbonate. Daily dose: **H. & C.** ʒ 1-2 (30.-60.); Sh. & Sw. 3 2½-4 (10.-15.); D. gr. 25-50 (2.-4.).

**Potassi Bicarbonas** (Potassium Bicarbonate). Uses and dosage as potassii acetas.

**Potassii Bitartras** (Cream of Tartar). Dose and usage as potassii acetas.

**Potassii Bromidum** (Potassium Bromid). Crystals. Sol. in 1.6 parts water. Nerve depressant in spasms, epilepsy, eclampsia, cerebral irritation, and nymphomania. Daily dose: **H. & C.** ʒ 1-3 (30.-90.); Sh. & Sw. 3 1-2½ (5.-10.); D. gr. 4-60 (0.25-4.).

℞ 1
Ammoniae bromidi gr. xxxv
Potassii bromidi
Sodii bromidi aa 3 i
Aquae destil. ʒ v.
M. Ft. sol.
Sig. Teaspoonful twice daily for a dog with nervous distemper.

℞ 2
Potassii bromidi ʒ iii
Glycyrrhizae ʒ i
Aq. com. q.s. electuarium.
M. Sig. Two doses for nymphomania in a mare.

**Potassii Carbonas.** **Extern.**, solvent and cleansing agent on skin. 4-8% aqueous solution.

**Potassii Chloras** (Potassium Chlorate). Soluble

in 17 parts water. **Intern.**, antiseptic in stomatitis and pharyngitis (℥ 1-2 in a pail of water). Dose: diuretic: **H. & C.** 3 1-2½ (5.-10.); Sh. & Sw. 3 ½-1 (2.-4.); D. gr. 1½-15 (0.1-1.). In electuary (honey) or dilute solution. Fatal dose: **H.** ℥ 8; **C.** ℥ 16. **Extern.**, antiseptic in stomatitis and pharyngitis (3-5%) in solution or electuary; desiccant antiseptic on ulcers.

| ℞ 1 | ℞ 2 |
|---|---|
| Potassii chloratis ʒi<br>Syrupi simplex ℥ ii.<br>M. Ft. sol.<br>Sig. Teaspoonful thrice daily for a dog with pharyngitis. | Potassii chloratis ℥ iss<br>Pulv. glycyrrhizae et syrupi q.s. electuarium.<br>Sig. Give on the tongue with a paddle for a horse with pharyngitis (daily dose). |

**Potassii Citras** (Potassium Citrate). Uses and dosage as potassii acetas.

***Potassii Dichromas** (Potassium Dichromate). Caustic in canker, grease, new formations. Ointment or aqueous solution (5-10%). Astringent in weak solutions (2%).

**Potassii Hydroxidum** (Potassium Hydroxid; Caustic Potash; KOH). Dry white flakes or hard white sticks. Soluble in 0.4 parts water. **Extern.**, caustic on small warts and tumors. Prevents growth of horns in calves. PREP: *Liquor Potassii Hydroxidi* (Solution of Potassium Hydroxid), 5%.

**Potassii Iodidum** (Potassium Iodid; KI). Crystals. Soluble in 1 part water. **Intern.**, *specific in actinomycosis*, alterative and resorbent in chronic bronchitis and laryngitis (cough), chronic metallic poisoning (lead), goitre, fistula of the spermatic cord, botryomycosis, and periodic ophthalmia (inject into the fatty pad 1-2 cc. of equal parts Lugol's sol. and distilled water; repeat in two weeks). Alterative

in a wide variety of affections, true value undetermined. Actinomycosis in cows: 3 1½ daily for two weeks, with improvement gradually reduce the dose. **H. & C.** 3 1-2½ (5.-10.); Sh. & Sw. 3 ½-1 (2.-4.); D. gr. 7½-15 (0.5-1.). Daily.

| ℞ 1 | |
|---|---|
| Potassii iodi | ʒ i |
| Aq. | ʒ iv |
| Syrupi acaciae | ʒ i. |
| M. Ft. sol. | |
| Sig. Tablespoonful thrice daily for a dog with pneumonia. | |

| ℞ 2 | |
|---|---|
| Potassii iodi | ʒ ii |
| Aq. com. | O i. |
| M. Ft. sol. | |
| Sig. One ounce 2-3 times daily for a horse with chronic cough (laryngitis). | |

**Potassii Nitras** (Potassium Nitrate; Saltpeter; Niter). **Intern.**, diuretic, inferior to acetate of potash on account of irritating and depressant effect (Stevens). **H. & C.** 3 1-5 (5.-20.); Sh. & Sw. 3 ½-1 (2.-5.); D. gr. 3-7½ (0.2-0.5). In electuary or solution.

**Potassii Permanganas** (Potassium Permanganate). **Extern.**, antiseptic in stomatitis, fetid ulcers, metritis, etc. (1-2%). Remove stain with sat. sol. of oxalic acid. Powder thickly and bandage in verrucose dermatitis (grease-heel). **Intern.**, antidote in morphin poisoning. **H. & C.** 3 ½-1 (2.-4.); Sh. & Sw. gr. 3-6 (0.2-0.4); D. gr. ½-1 (0.03-0.065).

***Potassii Picras** (Potassium Picrate). Small yellow crystals or powder; explosive, use cork stopper. Soluble in 230 parts cold water, 15 parts boiling water. **Intern.**, in stomach-worm disease (strongylus contortus) in lambs in doses of grains 1½ in two ounces of water; lung-worm disease in lambs in intratracheal injections of 5 cc. of a 0.2% solution; lung-worm disease in cattle in intratracheal injections of 20-60 cc. of a 1:1000 solution.

***Protargolum** (Protargol). Proteid compound. 8.3% silver. Slowly soluble in 2 parts cold water. **Intern.**, purpura (3 2-5 of a 5% solution 2-3 times daily per vein). **Extern.**, antiseptic in wounds and fistulae 3%; quittor 10% twice daily combined with spirits of camphor bandage; conjunctivitis 1-20% (non-irritating); otitis 3-6%.

***Pulvis.** See acid boric (pulvis antisepticus), amylum, magnesii oxidum, acetanilid, acid benzoic, acid salicylic, acid tannic, alumen, bismuthi iodosubgallas, bismuthi subnitras, chloretone, chalk, calomel, calcii hydras, carbo ligni, galla, iodoform, kaolinum, menthol, naphthalin, talcum, and zinci oxidi.

***Pulvis Antisepticus** cf acidum boricum.

***Pyoktanin** (Methyl-blue). Antiseptic on wounds, abrasions, and saddle bruises (2-5% alcoholic solution), scratches (powder, cone, or alcoholic solution); conjunctivitis in 0.1% solution.

℞ 1

| | |
|---|---|
| Pyoktanin | gr. i |
| Zinci oxidi | ʒ i |
| Petrolati | ℥ ii |
| Tinct. iodi | ʒ ss. |

M. Sig. For scratches.

***Pyrethrum** (Persian Insect Powder). Insecticide in form of powder or wash (10%).

**Pyrogallol** (Pyrogallic Acid). White crystals. Soluble in 2 parts water. **Extern.**, antiseptic in chronic eczema (5% ointment); useful in breaking of the hair (trichorrhexia nodosa) and alopecia (5% solution).

**Quassia. Intern.**, stomachic, uses and dosage as gentian. **Extern.**, anthelmintic for rectal worms

(oxyurus). Infusion of 4 ounces of chips to 4 quarts of water per rectum.

***Quininae et Ureae Hydrochloridum** (Quinine and Urea Hydrochlorid). Contains about 60% quinine. **Intern.,** use and dosage as quinine. **Extern.,** substitute for cocain in the production of local anesthesia, in some cases the action is said to be prolonged for several days. Use in ¼-1% solution for subcutaneous injection; 10-20% on mucous membranes.

**Quininae Sulphas** (Quinine Sulphate). Soluble in acidulated water, or alcohol. **Intern.,** antipyretic in septicemia, purpura, chilling, early stages of influenza, etc. Retards metabolism, and migration of leucocytes. Stomachic in debility. **H.** 3 2½-5 (10.-20.); **C.** 3 4-6 (15.-25.); Sh. & Sw. 3 ½-1 (2.-5.). Give in single daily dose in the morning (Fröhner).

**Resorcinol** (Resorcin). Soluble in water or alcohol. **Extern.,** antiseptic on wounds (1% solution, 10% ointment), scratches (2-25% ointment), and eczema (1-5%). **Intern.,** intestinal antiseptic in diarrhea. **H.** 3 1 (5.); **C.** 3 1-2½ (5.-10.); Sh. & Sw. 3 ½ (2.).

Thrice daily.

℞ 1

| | |
|---|---|
| Resorcinolis | 1 |
| Sulphuris sublimati | 40 |
| Adipis | 30. |

M. Sig. For seborrhea (Joseph).

℞ 2

| | |
|---|---|
| Resorcinolis | gr. xv-3 iss |
| Sodii chloridi | gr. xv |
| Glycerini | 3 ii |
| Liq. calcis q.s. | 3 iv. |

M. Sig. For acne, folliculitis, pruritus (Stevens).

℞ 3

| | |
|---|---|
| Resorcinolis | 10 |
| Zinci oxidi | 25 |
| Amyli | 25 |
| Liq. petrox | 40. |

M. Pasta Resorcini Mitis, Lassar N.F.

**Rhamnus Purshiana** cf cascara sagrada.

**Rheum** (Rhubarb). Stomachic in small doses in intestinal catarrh; astringent in medium doses in diarrhea; laxative in large doses. *Stomachic:* **H. & C.** 3 2½-6 (10.-25.); Sh., Sw., Calves, Foals, 3 ½-1 (2.-5.); D. gr. 7½-15 (0.5-1.); Lambs, gr. 1½-7½ (0.1-0.5). *Astringent:* **H. & C.** ʒ 1-2 (30.-60.); Sh., Sw., Calves, and Foals, 3 1-2½ (5.-10.); D. gr. 15-30 (1.-2.); Lambs, gr. 7½-15 (0.5-1.). *Laxative:* Sh., Sw., Calves, and Foals, ʒ 2-3 (60.-90.); D. 3 1-4 (5.-15.); Lambs, 3 ½-1 (2.-5.). PREPARATIONS: *Tinctura Rhei* (20%); *Fluidextractum Rhei.* Dose: as rheum. *Pulvis Rhei Compositus.* Rhubarb 25, magnesia 65, ginger 10. Dose: 2-3 times rheum.

**Saccharum** (Sugar). Pulverized.

**Saccharum Lactis** (Milk Sugar). Pulverized. Flavoring agent.

**Sal Ammoniac** cf ammonium chlorid.

***Sal Carolinum Factitium** (Artificial Carlsbad Salts). Amorphous: dried sodii sulphas 44, sodii chloridum 18, sodii bicarbonas 36, potassii sulphas 2. **Intern.,** resorbent in exudates and transudates (edema); stomachic in gastro-intestinal catarrh; cathartic (rarely). **H. & C.** ʒ 1-3 (25.-100.); Sh. & Sw. 3 ½-2½ (2.-10.); D. & Cat, gr. 4-15 (0.25-1.).

℞ 1

| | | |
|---|---|---|
| Sal Carolini factitii | | ʒ xvi |
| Gentianae | | |
| Nucis vomicae | aa | ʒ viii. |

M.

Sig. Tablespoonful thrice daily as a stomachic for a horse or cow.

**Salol** cf phenylis salicylas.

**Santoninum** (Santonin). Anthelmintic. **H. & C.**

℥ 2½-5 (10.-25.); Sh. ℥ ½-1 (2.-4.); Sw. gr. 15 (1.); D. gr. ¾-3 (0.05-0.2). Follow with calomel or oil in dog.

℞ 1

| | |
|---|---|
| Santonini | gr. vi |
| Sacchari lactis | gr. xx. |

M. Ft. chartulae No. xxx.
Sig. One powder every three hours for a dog with worms.

**Sapo** (Hard Soap; Castile Soap).

**Sapo Mollis** (Soft Soap; Green Soap). Yellowish-brown. **Uses:** in liniments and ointment to cleanse and soften the skin; resorbent when applied with massage in mastitis, phlegmons, sprains, and strains. Antiseptic, see acidum carbolicum crudum.

℞ 1

| | |
|---|---|
| Sapo mollis | ℥ ii. |
| Acidi salicylici | ʒ iss |

M. Sig. Rub in thoroughly.

**Scilla** (Squill). Action nearly identical with digitalis, stronger diuretic (Fröhner). Seldom used. **H. & C.** ℥ 1-2½ (5.-10.); D. gr. 3-7 (0.2-0.5).

**Scopolaminae Hydrobromidum** (Scopolamin Hydrobromid). Identical with hyoscin, see hyoscyamus.

**Secale Cornutum** cf ergota.

**Senna.** Leaves. Purgative in small animals. Sw. ℥ 2½-6 (10.-25.); D. ℥ 1-3 (5.-15.); Cat, gr. 15-30 (1.-2.). In syrup.

**Serum Antianthrax.** Prophylactic and curative. Dose: 30-100 cc., curative; 10 cc. prophylactic. Serum and spore vaccine is effective in infected herds. Serum not adapted to general prophylactic use, since it produces a low and short immunity.

**Serum Antitetanic Purificatum.** Potency of 100

units per cc. Prophylactic dose: 500-1500 units (cc.) per vein. Curative value doubtful. Recent curative dose of 150,000 to 500,000 units in man is thought by some to result in benefit.

**Serum Anti-White Scours.** Useful in some outbreaks of scours in new-born calves. Prophylactic dose: 10-20 cc. per subcutis. Curative dose: 20 cc. every 6-12 hours, or size and frequency according to the value of the animal—dose not limited.

**Silver Nitrate** cf argenti nitras.

**Sinapis Alba** (White Mustard).

**Sinapis Nigra** (Black Mustard). **Intern.**, stomachic and mild diuretic. **H.** ʒ 1-2 (30.-60.); **C.** ʒ 2-3 (60.-90.); Sh. ʒ 1-2½ (5.-10.). In electuary or powders. **Extern.**, rubefacient in form of paste with warm water. PREP: *Oleum Sinapis Volatile.* Counter-irritant in pneumonia, pleurisy, colic, pharyngitis; apply over the loins as an excitant in parturient paresis. **H.** 5-8%; **C.** 10-20%; D. 2-5% in alcohol.

**Sodii Acetas.** Use and dosage as potassii acetas.

**Sodii Bicarbonas** (Sodium Bicarbonate). **Intern.**, stomachic and antacid alone or combined with bitters in gastric fermentation and catarrh; resorbent in pulmonary and pleural exudates; diuretic. **Extern.**, antiseptic and solvent of albumen in irrigation of wounds, in spray, or inhalation. **C.** ʒ 2-3 (60.-90.); **H.** ʒ 1-2 (30.-60.); Sh. ʒ 1-2½ (5.-10.); Sw. ʒ ½-1 (2.-5.); D. gr. 7½-15 (0.5-1.).

℞ 1

| | | |
|---|---|---|
| Sodii bicarbonatis | | |
| Sodii chloridi | aa | ʒ iii |
| Gentianae | | ʒ ii. |

M. Sig. Tablespoonful thrice daily for a horse with gastric catarrh.

**Sodii Boras** (Borax). Soluble in 20 parts water, 1 glycerin. Antiseptic. Used to preserve tissues during shipment.

**Sodii Bromidum.** Use and dosage as potassium bromide.

**Sodii Cacodylas** cf arseni trioxidi.

**Sodii Chloridum** (Sodium Chlorid; Salt; NaCl). **Intern.,** stomachic in gastro-intestinal catarrh; promotes metabolism in chronic malnutrition (anemia); resolvent in edematous conditions; diuretic; **stimulant** per vein, subcutis, or rectum (0.6%) in heart weakness, severe hemorrhage, dysentery, and collapse: **H. & C.** 4-5 quarts, medium size 2 quarts, small animals 8-16 ounces. See Sal Carolinum factitium. **H. & C.** ʒ 1-3 (30.-90.); Sh. & Sw. 3 ½-2½ (2.-10.); D. gr. 15-30 (1.-2.). **Extern.,** antiseptic (dissolves albûmen) in catarrhal inflammation of mucous membranes, and in excessive exudation.

**Sodii Hydroxidum** (Sodium Hydroxid; Caustic Soda). Use and action as potassii hydroxidum.

**Sodii Hypophosphis** (Sodium Hypophosphite) cf sodii thiosulphas.

**Sodii Iodidum** (Sodium Iodid). Use and dosage as potassium iodid.

**Sodii Nitris** (Sodium Nitrite; $NaNO_2$). Soluble in 1½ parts water. **Intern.,** *vasodilator*, action practically identical with amyl nitrite, less rapid and more lasting. Use: as nitroglycerin. **H. & C.** gr. 10-30 (0.65-2.); Sh. & Sw. gr. 1-5 (0.065-0.3; D. gr. ½-3 (0.03-0.2).

**Sodii Phenolsulphonas** (Sodium Phenolsulphonate; Sodium Sulphocarbolate). Soluble in 5 parts water. Intestinal antiseptic in acute catarrh and

diarrhea. Doubtful value. H. & C. ℥ 2-8 (8.-30.); Sh. & Sw. gr. 15-60 (1.-4.); D. gr. 10-30 (0.6-2.).

**Sodii Salicylas** (Sodium Salicylate). Use and action as acidum salicylicum. Daily dose: H. ʒ 2-3 (60.-90.); C. ʒ 2½-5 (75.-150.); Sh. ℥ 2½-6 (10.-25.); Sw. ℥ 1-2½ (5.-10.); D. gr. 15-45 (1.-3.).

℞ 1
Sodii salicylatis
Althaeae aa 100
M. Ft. chartulae No. iv.
Sig. One powder in a drench every 3 hours for a cow, or as electuary for a horse with rheumatism (v.k.).

**Sodii Sulphas** (Sodium Sulphate; Glauber's Salt; $Na_2SO_4$). Soluble in 3 parts water. *Cathartic* in indigestion. H. ʒ 8-16 (250.-500.); C. ʒ 16-32 (500.-1000.); Sh. ʒ 2-3 (60.-90.); Sw. ʒ 1-2 (30.-60.); D. ℥ 2½-6 (10.-25.). In solution or electuary. *Stomachic*, resolvent, and laxative in gastro-intestinal catarrh, edemas, serous exudates, etc. H. & C. ʒ 1-3 (30.-90.); Sh. ℥ 2½-6 (10.-25.); Sw. ℥ ½-1 (2.5.); D. gr. 15-30 (1.-2.). *Note.*—The dried sodium sulphate is prepared by slowly drying the crystalline salt which is spread in a thin layer and exposed to the air until it has lost one-half its weight.

**Sodii Thiosulphas** (Sodium Hyposulphate). Soluble in 1 part water. Intern., antacid and antiseptic in gastric tympany. H. & C. ʒ ½-2 (15.-60.); Sh. & Sw. ℥ ½-1 (2.-4.); D. gr. 5-30 (0.3-2.). Extern., parasiticide in ringworm.

**Sparteinae Sulphas.** Alkaloid from broom tops. Heart depressant, similar to coniin. H. gr. 15-75 (1.-5.); D. gr. 1½-7½ (0.1-0.5).

**Spiritus Aetheris.** Intern., stimulant in collapse,

antispasmodic in colic, contraindicated in tympany. H. & C. ʒ ½-1 (15.-30.); Sh. & Sw. 3 ½-2 (2.-8.); D. ♏. 8-15 (0.5-1.); stimulant per subcutis for horse 3 1 (4.).

**Spiritus Aetheris Nitrosi** (Sweet Spirit of Niter). Diaphoretic and diuretic in first stages of fever (small frequent doses); antispasmodic in colic; stimulant. H. & C. ʒ 1-3 (30.-90.); Sh. & Sw. 3 2-4 (8.-15.); D. ♏. 10-60 (0.6-4.). In capsule, liquor ammonii acetatis, or water. Deteriorates when exposed.

℞ 1
Tinct. aconiti ʒ i
Spiritus aetheris nitrosi ʒ iv
Liq. ammonii acetatis q.s. ʒ viii.
M. Sig. Tablespoonful every 2-3 hours.

℞ 2
Spiritus glycerylis nitratis 3 iii
Spiritus aetheris nitrosi ʒ iv
Chloroformi 3 iii
Alcoholis ʒ v
Liq. ammonii acetatis q.s. ʒ xvi.
M. Sig. One ounce every 2-4 hours for a horse.

**Spiritus Ammoniae Aromaticus.** Heart and respiratory stimulant in collapse, depression, dyspnea, pulmonary congestion; antacid in indigestion, colic (tympany, spasmodic colic). H. & C. ʒ 1-2 (30.-60.); Sh. & Sw. 3 2-4 (8.-15.); D. 3 ½-1 (2.-4.). Administer in capsule, or dilute 1:10 in water or linseed water.

**Spiritus Glycerylis Nitratis.** A 1% solution of glycerylis nitras. Vasodilator and respiratory sedative in congestion of the lungs, pulmonary edema, bronchitis, pulmonary emphysema in dogs, and hemoptysis. H. & C. 3 1-2 (4.-8.); D. ♏. ¼-2 (0.01-0.14).

***Glycerylis Nitratis** (Nitroglycerin; Glonoin; Trinitrin). Oily fluid. Incorporated into tablets which soon deteriorate. **H. & C.** gr. ¼-¾ (0.016-0.05); **D.** gr. 1/200-1/50 (0.0003-0.0013).

℞ 1
Spiritus glycerylis nitr. ♏. xv
Glycerini ʒ iiss
Aquae com. ℥ iii.
M. Ft. sol.
Sig. Teaspoonful thrice daily for a dog with pulmonary emphysema.

℞ 2
Spiritus glycerylis nitratis ʒ iv
Alcoholis dil. q.s. ℥ ii.
M. Sig. One dram every 15 minutes to 1 hour for a horse.

℞ 3
Spiritus glycerylis nitratis ʒ ii.
Sig. In drinking water thrice daily for a horse with heaves.

***Spiritus Sinapis** cf sinapis.

**Staphisagria** (Stavesacre). Seeds. Parasiticide (lice, fleas) in form of oil 1 to olive oil 8; or decoction of seeds.

**Starch** cf amylum.

***Stovain.** Soluble white crystals. Anesthetic, less toxic than cocain, vasodilator, used chiefly in eye practice (4%).

**Stramonium** (Jamestown Weed; Thorn Apple). Contains hyoscin, hyoscyamin, and atropin. Action and uses as belladonna. See lobelia.

**Strophanthus.** Circulatory stimulant, and diuretic, similar to digitalis; absorption and elimination more rapid. PREPARATIONS: *Tinctura Strophanthi.* **H. & C.** 3 2½-6 (10.-25.); Sh. & Sw. ♏. 5-20 (0.3-1.3); D. ♏. 2-10 (0.13-0.6). *Strophanthinum.* Mixture of

glucosids. H. & C. gr. 1/6 (0.01); D. gr. 1/300-1/60 (0.00025-0.001). Per subcutis (irritant), or vein.

℞ 1
Tincturae strophanthi
Pulv. athaeae aa ʒ ii
Aq. com. q.s. massa.
M. Ft. boli No. vi.
Sig. One pill twice daily for a horse with heart weakness.

℞ 2
Tincturae strophanthi ʒ iss
F. E. nucis vomicae ʒ i
Spiritus ammoniae arômatici ʒ iv
Aquae q.s. ʒ xii.
M. Sig. One ounce every half-hour to two hours in collapse and heart weakness.

**Strychninae Sulphas** cf nux vomica.

**Styrax** (Storax). Uses: as balsam Peru.

**Sublimate** cf hydrargyrum chloridum corrosivum.

**Sulphocarbolates** cf zinci and sodii phenolsulphonas.

**Sulphur Lotum** (Washed Sulphur). PREP: *Unguentum Sulphuris.* Washed sulphur 15, benzoinated lard 75.

**Sulphur Praecipitatum** (Praecipitated Sulphur). See zinci oxidi ℞ 7.

**Sulphur Sublimatum** (Flowers of Sulphur; Sublimed Sulphur). Stimulant and parasiticide in chronic skin diseases. See pix liquida ℞ 1.

℞ 1
Sulphuris sublimati 50
Hydrargyri 5
Cantharidis 20
Petrolati 400.
M. Ft. unguentum.
Sig. Ointment for summer mange, acne, etc., in the horse (Fröhner).

℞ 2
Calcii hydroxidi 16.5
Sulphuris sublimati 25.
Aquae q.s. 100.
M. Liquor Calcis Sulphuratae N.F. Useful in mange and eczema.

℞ 3

| | |
|---|---|
| Calcii carbonatis praecipitati | 10 |
| Sulphuris sublimati | 15 |
| Olei cadini | 15 |
| Sapo mollis | 30 |
| Adipis | 30. |

M. Unguentum Sulphuris Compositum N.F.

℞ 4

| | |
|---|---|
| Sulphuris sublimati | 20 |
| Calcis | 16 |
| Aquae | 100. |

Make lime into thin paste, add sulphur, add 25 water and boil 2 hours, draw off water, add water to make 100. Lime and Sulphur Dip B.A.I.

***Sulphuris Iodidum N.F.** (Sulphur Iodid). **Extern.**, very efficient in chronic eczema, *ringworm*, mange. In 1:8-10 oil. Apply with a stiff brush. Tinct. iodin ʒ 4, sublimed sulphur ʒ 1, boil, the cool mass is sulphur iodid; or prepare as in N.F. Triturate 20 parts sulphur with 80 parts iodin; place in a bottle and set the bottle in a water bath until fusion occurs. Light cottonseed oil (Wesson's oil) or olive oil may be added at once in the proportion of 1:8-10; or the bottle may be broken after cooling, the fused mass pulverized and then combined with the oil. Use alone or add formalin to make 10% for ringworm in cattle. An excellent combination for pruritus consists of formalin 10, alcohol 40, sulphur iodid and oil 50.

***Sun Cholera Cure** cf mistura.

**Suprarenalum Siccum.** Contains 9.4-0.6% of epinephrine, the active principle of the suprarenal gland, it may also be made synthetically. **Intern.**, stimulates and constricts peripheral vessels in shock, collapse, azoturia, purpura, pulmonary hemorrhage, parturient paresis. Administer per vein, non-active per subcutis. Action transient. Dose: 1:1000 sol.: **H. & C.** 3 i-iv (5.-15.); Sh. & Sw. 3 ½-1 (2.-4.); D. ♏. 10-30 (0.6-2.). **Extern.**, hemostatic on mucous mem-

branes in epistaxis, congestion, hemorrhage; one dram per subcutis over planter nerve for local effect in acute laminitis. Use in 1:5000-1000 solution of *epinephrin* (adrenalin).

**Syrupus** (Syrup). Sugar 85, water 100. May substitute molasses or honey.

***Tabacum** (Tobacco). Parasiticide. Do not exceed 5% of the decoction in water.

**Talcum** (Magnesium Silicate; Soapstone). Protectant and desiccant in acute skin diseases.

| ℞ 1 | | ℞ 2 | |
|---|---|---|---|
| Acidi salicylici | 3 | Acidi salicylici | 3 |
| Acidi borici | 100 | Amyli | 70 |
| Talci | 87. | Talci | 27. |
| M. Pulvis Talci Salicylicus N.F. | | M. (Schindelka). | |

***Tallianine.** Ozonized terpene. Used in pectoral influenza, dog distemper, azoturia, etc. Clinical reports are very conflicting. Efficiency doubtful. **H. & C.** ʒ 2½-2 (10.-25.); D. ♏. 15-75 (1.-5.). Per vein.

**Tannin** cf acid tannic.

***Tannoform.** Combination of formaldehyd and tannin. **Intern.**, intestinal astringent and antiseptic in intestinal catarrh or diarrhea. **H. & C.** ʒ 2-3 (60.-90.); Calves and Foals, ʒ 1-2½ (5.-10.); D. gr. 15-30 (1.-2.). **Extern.**, our most efficient desiccant antiseptic on fresh or old wounds (Fröhner). Use alone or combined with starch (1:5).

**Tar** cf pix liquida.

**Terbenum** cf oleum terebinthinae.

**Terebinthina** (Turpentine). Oleoresin. **Extern.**, in oint. to promote granulations; used in blisters. See oleum terebinthinae.

***Theobromina.** Alkaloid closely related to caffein. **H.** 3 2½ (10.); **D.** gr. 8-15 every 2 hours in ascites.

***Therapogen.** An alcoholic and aqueous solution of terpenes and naphthalin. Non-irritating antiseptic and deodorant (3%). Useful in obstetrics, metritis, etc. 8 ounces of ½% solution in warm water slowly injected into the teats in mastitis. **Intern.,** intestinal antiseptic. **H. & C.** ʒ 2-4 daily. Administer per os, pure or dilute.

***Thioform** cf bismuthi dithiosalicylas.

**Thymol.** Disinfectant and deodorant.

**Thymolis Iodidum** cf aristol.

**Thyroid Extract** cf glandulae.

**Tragacantha.** Protectant. **Prep:** *Mucilago Tragacanthae.*

***Tricresol.** Mixture of ortho-, para-, and meta-cresols. Soluble in 40 parts water. Disinfectant (2%); 3 times the strength of phenol; stable disinfection 1-2%. See cresol.

***Trinitrum** cf spiritus glycerylis nitratis.

***Tuberculin.** Glycerinated bouillon containing products of growth of tubercle bacilli. The most reliable agent known for the diagnosis of latent tuberculosis. **Dose: H. & C.** 2 cc.; Yearlings 1 cc.; Calves under 6 mo. ½ cc.; Sheep 1/10 cc.; Swine 1/5-1/2 cc.; Dog 1/5 cc. Inject per subcutis on side of neck or chest in animals with normal temperature. Normal animals do not react. Take temperature and note physical condition every two hours from the eighth to the eighteenth hours after injection. In tubercular animals the temperature begins to rise (chills) in from 6-8 hours after injection, gradually rises to the

12th to the 24th hour, returning to normal in 24-40 hours. Rise in temperature may begin at the 4th hour, or not until the 14th to 18th hour. **Interpretation** of reaction (Hutyra & Marek): A reaction is **positive**; A. with a rise of 2.6° F. or more; or B. Elevation above 104° F., with a rise of at least 1° F.; or C. A rise of 1.8° F. to 2.5° F., or above 103° F., in addition to an organic reaction (chills, depression). In calves under 6 months a positive reaction depends on a rise to at least 105.4° F. There is no evidence of tuberculosis with a rise of 2.5° F., that does not exceed 103°, or give an organic reaction.

**Turpentine** cf olei.

**Unguentum** (Ointment). White wax 2, benzoinated lard 8.

**Urotropin** cf hexamethylenamina.

**Urva Ursi** (Bearberry. Diuretic and astringent. Uses and action as buchu. Dose: Fl. Ext. **H. & C.** ʒ 2-4 (60.-120.); D. 3 ¼-2 (1.-8.).

**Vaselin** cf petrolatum.

***Vasogen** cf petroxolinum liquidum.

***Veratrum** (Rhizome and root of green hellebore and white hellebore). Heart sedative and febrifuge, similar to aconite in the beginning of acute inflammatory diseases (pneumonia); emetic in swine; stomachic in cattle in indigestion. **H. & C.** 3 1-2½ (5.-10.); Sh. 3 ½-1 (2.-5.); Sw. gr. 8-35 (0.5-2.). PREPARATIONS: *Tinctura Veratri.* Dose: as veratrum ****Veratrin Sulphate.*** **H. & C.** gr. ½-2 (0.03-0.13); Sw., *emetic,* gr. ¼-½ (0.016-0.03); Sh. gr. 1/6-1/3 (0.01-0.02); D. gr. 1/64-1/12 (0.001-0.005). Per subcutis or os. See arecovetrol.

***Vetol.** "Yohimbin-vetol." Said to contain 50%

yohimbin. See yohimbin. Yohimbin, Merck is preferable. (Holterbach, Schlampp).

*Vitriol. *Blue* (copper sulphate or bluestone); *green* (iron sulphate or copperas); *oil of* (sulphuric acid) *white* (zinc sulphate).

*White Lotion cf plumbi acetas.

*Yohimbin Hydrochlorid (Merck). White crystals soluble in hot water. Intern., aphrodisiac in impotence. H. & C. gr. ¾-1½ (0.05-0.1); Sh. & Sw. gr. 1/6-1/2 (0.01-0.03; D. gr. 1/64-1/6 (0.001-0.01). Administer 3-6 times daily in above dosage for several days. Discard treatment for H. & C. when at least 2 Gm. have been given (Holterbach).

Zinci Acetas (Zinc Acetate). Soluble in 3 parts water. Astringent antiseptic. Uses: as zinci sulphas.

Zinci Carbonas Praecipitatus. Calamin is the crude form. Astringent, sedative, and protective in eczema, scratches, etc. PREP: **Unguentum Calaminae N.F.* Calamin 1, unguentum (U. S. P.) 5.

Zinci Chloridum (Zinc Chlorid). Soluble in 0.5 parts water. Caustic in fistulae, ulcers, canker, and tumors. Use as paste (1:1-3 flour); or 40% alcoholic solution; or 10-20% aqueous solution. Weak antiseptic and astringent.

℞ 1
Sanguinariae ʒiii
Zinci chloridi
Acaciae
Aquae aa ʒi.
M. Add water slowly to the consistency of putty ("German Caustic"). Sig. Plug fistula and leave for 5 days.

**Zinci Oxidum** (Zinc Oxid). **Extern.**, astringent and protective in acute eczema, burns, etc. PREP: *Unguentum Zinci Oxidi.* Zinc oxid 2, benzoinated lard 8.

℞ 1
Zinci oxidi
Bismuthi subnitratis
Plumbi acetatis aa 3 i
Talci ʒ iii.
M. Desiccant powder.

℞ 2.
Zinci oxidi 3 i
Talci 3 v
Amyli ʒ iii.
M. Sig. Desiccant powder.

℞ 3
Zinci oxidi 60
Ol. olivae 40.
M. Zinc oil (Joseph).

℞ 4
Ol. lini
Aq. calcis
Zinci oxidi
Cretae aa 100.
M. Pasta Zinci Mollis, Unna N.F.

℞ 5
Acidi salicylici 2
Zinci oxidi
Amyli aa 24
Petrolati 50.
M. Pasta Zinci, Lassar N.F.

℞ 6
Zinci oxidi 15
Sulphuris praecipitati 10
Silicic acid 5
Adipis benzoin. 70.
M. Pasta Zinci Sulphurata, Unna N.F.

℞ 7
Resorcinolis 30
Zinci oxidi
Amyli aa 20
Petrolati q.s. 100.
M. Resorcin paste (Joseph).

℞ 8
Sulphuris praecipitati 10
Zinci oxidi
Amyli aa 20
Glycerini
Aquae aa 100.
M. Sulphur lotion (Joseph).

**Zinci Phenolsulphonas** (Zinc Sulphocarbolate). Gastrointestinal antiseptic and astringent in diarrhea of acute intestinal catarrh. **H. & C.** 3 1-4 (5.-15.); Sh. & Sw. gr. 8-30 (0.5-2.); D. gr. 5-20 (0.3-1.3).

**Zinci Sulphas** (White Vitriol; Zinc Vitriol). Soluble in 1 part water, 3 glycerin. **Extern.**, astringent in catarrhal and suppurative conjunctivitis (0.5-2% solution), otorrhea (1-5%). See plumbi acetas. **Intern.**, emetic. Sw. gr. 8-16 (0.5-1.); D. gr. 1½-4½ (0.1-0.3).

**Zingiber** (Ginger). **Intern.**, uses and action as capsicum. **H.** 3 2-8 (8.-30.); **C.** ℥ 1-4 (30.-120.); Sh. & Sw. 3 1-2 (4.-8.); D. gr. 5-15 (0.3-1). PREPARATIONS: *Fluidextractum Zingiberis.* Dose: as zingiber. *Tinctura Zingiberis* 20%. **H. & C.** ℥ 2-4 (60.-120.); Sh. & Sw. 3 2-4 (8.-15.); D. 3 ½-1 (2.-4.).

## 5. Treatment of Diseases.

**Abortion, Contagious.** Segregate recent aborters and cows about to abort (rapid swelling of the udder and vulva, vaginal discharge). Destroy fetus and afterbirth. Disinfect the stables: phenol, calx, chlorinated lime, sulphuric acid, formalin, liquor cresolis compositus. Disinfect frequently the floors and gutters of stalls containing suspected animals. *Cow:* irrigate the uterus daily to three times a week with a saline solution or a 0.1% solution of potassium permanganate until a week or more after the discharge stops, then wait 1-2 months before breeding. Cleanse the external genitals, tail, etc., and disinfect them with a 3% creolin solution. *Bull:* clip the preputial hairs, douche preputial sac with a ½% Lugol's solution before and after each service.

**Abscess.** Promote resorption or encapsulation with hot antiseptic packs, alcohol bandage, iodin or cantharides blister. Free incision, irrigation, tampon of sublimate gauze for 24 hours, then open treatment (daily irrigation followed with antiseptic dusting-powder). *Deep abscess:* exploratory incision or puncture for diagnosis, insert tube for drainage.

**Acne** (Summer Surfeit; Heat-, Sweat-, or Harness Eczema). Sulphur sublimatum ℞ 2 and 3, sulphur lotum (ung.), zinci oxidum ℞ 5 and 6, pix liquida ℞ 1, acidum tannicum ℞ 2, resorcinol ℞ 1 to 3, liquor calcis sulphurata, acid chromic 3%.

**Actinomycosis.** Extirpate subcutaneous growths; or incise and slough out with copper sulphate crystals; intraglandular injection of Lugol's solution; potassium iodid internally (specific).

**Alopecia.** *Symptomatic:* frequent washing with solutions of potassium or sodium carbonate, or borax, followed with simple ointment. Antiseptics: resorcin 5%; pyrogallol 10%; alcoholic sublimate. Rubefacients: capsicum ℞ 1. Plenty of grooming, frequent creolin baths, sunlight, exercise, and intensive feeding.

**Alveolar Emphysema** (Heaves). Suppress symptoms. *Diet:* feed straw instead of hay, with grain diet largely of bran. Run the hay through a feed cutter, moisten and mix it with the grain, feed roughage not more than twice daily. *Intern.*, alkalies, respiratory sedatives, tonics, and alteratives. *Calx; arseni trioxidum;* potassium iodid; spiritus glycerylis nitratis, *belladonna;* grindelia; ergota; prolonged use of Carlsbad salts; lime water; lobelia.

**Anemia.** *Secondary:* intense feeding, sunlight, fresh air, care of the skin. *Intern.*, nux vomica, hydrochloric acid, arsenic, vermifuges in the young. *Primary:* H. & C.: ferri reductum, ferri sulphas, tonics and bitters. Dog: ferri citras or ferri carbonas saccharatus. *Infectious* (Swamp Fever): prophylactic.

**Anthrax.** *Local:* as septic phlegmon—free incision, strong disinfectants, cauterization; or parenchymatous injection (phenol 3%, creolin 5%) around the margin of the swelling, followed by cool antiseptic packs (alcoholic sublimate, phenol). *Intern.*, as septicemia—stimulants (ol. camphor per subcutis, alcohol); intestinal antiseptics (creolin 3 iv every 15 minutes for one hour, then every two hours until temperature falls). Antianthrax serum per vein. Treatment is usually hopeless. *Prophylaxis:* remove all animals from the infected fields; disinfect the

stables (phenol, calx, liquor cresolis compositus); bury all cadavers without skinning and cover them with lime; drain and till infected soil. Take temperatures three times daily, segregate and administer serum to those with fever. Anthrax vaccine for well animals.

**Aphtha** cf stomatitis.

**Arthritis. Acute.** *Sprains:* absolute rest; cold for first 24 hours (cold irrigation, ice packs, baths); follow with hot compress, alcohol or camphor bandage, cataplasma kaolini, massage and rubefacients (linimentum, iodin, mercurial ointment) under bandage. *Pyemic* cf navel-ill; compression for serous distensions following influenza. **Chronic.** *Deforming: ringbone and spavin:* point-fire, and blister, followed with 1-3 months rest; neurectomy; slight spavins may respond to mercurial resorbents (hydrarg, chloridi corrosivum ℞ 1 and 2, hydrargyri iodidum rubrum ℞ 1) without prolonged rest; shoe with high heel-calks. *Carpitis:* blisters under tar bandage; fixation bandage (plaster cast). *Serous* (Bog Spavin; Wind Puff): massage and rubefacients (tincture of iodin, liniments, mercurial ointment) with compress in early stages; blister beneath bandage in subacute and chronic forms (hydrargyri iodidum rubrum 1:5).

**Ascites.** Treat the primary disease—heart, kidneys, liver, lungs. *Diurctics:* infusion digitalis (cardiac), strophanthus, potassium salts, juniperus, caffein (nephritic), calomel. Paracentesis. Laxatives.

**Azoturia.** Rest on a deep bedding of straw; turn every 4-6 hours; clysters and mild laxatives (salts, aloin, arecolin ½ gr.) to evacuate bowels; relieve retention of urine (catheter, pressure on bladder per

rectum); control restlessness and delirium with F. E. Cannabis 5-10 cc. per vein; heat and massage with mild rubefacients over affected muscles (spirits of mustard, linimentum, Priessnitz pack); raise in slings when able to support weight on legs. Avoid severe cathartics that weaken the patient. Bleeding from jugular (conflicting reports). Sodium bromide ʒ ii in a quart of water, with 4 pounds of sugar within an hour; repeat in 12 hours (Drouin). Camphor or caffein in heart weakness. Adrenalin per vein.

**Bog Spavin** cf arthritis.

**Bots** cf carbon disulphid.

**Bronchitis. Acute.** Rest; fresh air free from dust and drafts; warm coverings; laxative food (carrots, clean hay, bran, oats); air moisture about 65%; rubefacient on chest (sinapis). For dry cough *sedatives and sedative expectorants;* apomorphin ℞ 2; antimonii et potassii tartras ℞ 2; codein ℞ 2-3; aqua amygdalae ℞ 1-2; ipecac and tartar emetic are of special value in acute sthenic attacks. *Inhalants:* menthol, creolin, benzoin, turpentine. *Diaphoretics:* spirits of nitrous ether. *Laxatives:* Carlsbad salts ʒ 1-2 three to four times daily. For moist cough and free exudate: ammonium chlorid ℞ 1 and carbonate; benzoin; ol. terebinthinae ℞ 1; combine with heroin and hyoscyamus or belladonna when cough is excessive. **Chronic.** *Horse:* pasture, light work, sunlight; pg. 9 ℞ 3; calx; creosotum; ammonium chlorid; grindelia; juniperus; lobelia; potassium iodid; benzoin; ol. turpentine ℞ 1. *Dog:* balsam Peru; spiritus glycerylis nitratis; apomorphin; aqua amygdalae amarae; ol. tereb. ℞ 1; copaiba.

**Burns.** *Mild:* cold irrigation or compress; Goulard's water; protective powders (amylum, sodium

bicarbonate, talcum); ol. lini ℞ 1. *Severe:* argenti nitras 5-10%; acid picric 1%; ung. zinci oxidi; menthol ℞ 3; chloretone.

**Bursattae** cf summer sores.

**Canker.** Remove all undermined horn; curette to healthy pododerm, even to the bone; cauterize thoroughly with a cherry-red iron; bandage firmly with gauze soaked in 50% or pure formalin; after 2-3 days apply a dry dressing under bandage. Autogenic vaccine.

**Capped-Hock and Curb.** *Acute:* irrigate with cold water (hose); with incomplete resorption (subacute) follow with massage and resorbents: linimentum, mercurial ointment, sapo mollis ℞ 1. When *chronic* use mild blisters in capped-hock over an area about the size of a quarter: tinct. iodin, linimentum tiglii (caustic balsam), cantharides, hydrargyri iodidum rubrum. Chronic curb may be line-fired and blistered; shoe with high heel-calks.

℞
Ung. hydrargyri dil.
Sapo mollis aa ʒ 1.
M. Ft. unguentum.

**Catarrhal Fever, Malignant** (Cattle). Light airy stable. *Inhalants:* turpentine, phenol. *Disinfectants* on oral and nasal mucous membranes: boric acid, potassium chlorate, tannin. *Expectorants:* tartar emetic. *Stimulants:* ol. camphor subcutaneously. Ice packs on head and throat; tracheotomy in severe dyspnea. Normal salt solution per subcutis or vein in collapse: 4-6 quarts of sterile water in which a teaspoonful of salt has been dissolved.

**Caustics** (Ammonia, Chloral, Acids). Neutralize with weak acids (vinegar), or alkalies (soda). Pro-

tectants: oil, mucilaginous drinks (linseed, acacia). Sedative astringents: lead acetate, Burrow's solution.

**Cerebritis** (Meningitis; encephalitis). Place in a quiet dark stall with plenty of bedding to protect against injury. Give laxative food; when unable to eat, feed artificially unless it causes excitement. *Laxatives* (oil, salts, calomel) through stomach tube or in the form of an electuary in paralysis of the pharynx. Cold on the head: water, snow, ice packs. *Resorbents:* salts, arecolin, pilocarpin. Control excitement with chloral in large animals and morphin in small.

**Cerebrospinal Meningitis.** Treatment of doubtful value: calomel gr. 30 daily. *Prophylactic:* exclude cause from food or water supply; mouldy roughage or grain, stagnant water.

**Choke.** *Horse:* tie to prevent access to food, small doses of arecolin or pilocarpin per subcutis, relief usually follows within 24 hours; massage of masses of grain when in the cervical region. Stomach-tube or probang only after 48 hours; irrigation through stomach-tube after ligating around esophagus to ensure return of water and food through the tube, esophagotomy. *Cow.* Remove with the hand when in the pharyngeal region. Round objects in the cervical region may be pressed towards the pharynx with the thumbs. Keep mouth of cattle open to prevent bloating, trocarize the rumen when bloating becomes excessive. Probang. Emetics in swine (veratrin) and dogs (apomorphin).

**Choroiditis.** Darkness. Atropin 1-2% and adrenalin solution once daily. See periodic ophthalmia.

**Coital Vesicular Exanthema.** Segregation; disinfect the stables (liquor cresolis compositus, phenol);

treat the local eruption with antiseptic astringents (zinc sulphate 1%, alum 1%, creolin 2%, lead acetate 2-3%, dusting powder on ulcers).

**Colic, Spasmodic.** *Laxatives:* sodii sulphas in electuary with ginger and glycyrrhiza; ol. lini with ether ℞ 1; arecolin. *Carminatives:* aromatic spirits of ammonia; ol. terebinthinae ℞ 3; acidum lacticum; capsicum; asafoetida. *Sedatives* in severe pain: chloral; F.E. cannabis per vein; chloroform; ether. Creolin. Rubefacients or heat to the abdomen; warm rectal injections. Restrict the diet. After-treatment as in acute gastro-intestinal catarrh. See acute indigestion.

**Collapse.** Saline solution (see sodii chloridum); camphorated oil per subcutis; ether; spiritus aetheris nitrosi; strychnin; alcohol; aromatic spirits of ammonia; blood transfusion; massage, heat, and warm coverings externally.

**Congestion. Pulmonary.** Rest in a cool airy stall; rubefacients on the chest (spirits of mustard, mustard paste); vasodilators and diaphoretics (spiritus aetheris nitrosi, spiritus glycerylis nitratis, sodii nitris, aconite); venesection in active strong subjects. Stimulants in heart weakness (camphor, aromatic spirits ammonia, caffein, strychnin, digitalis). Control the pain with narcotics: chloral, morphin. In threatened edema of the lungs give atropin per subcutis.

**Conjunctivitis.** *Catarrhal:* equal parts saturated solution of boric acid and camphor water; protargol 20%; hydrargyri oxidum flavum; saturated solution of boric acid; pyoktanin .1%; darkness; add ½% cocain or alypin in pain; avoid storms and dust; zinc sulphate 2½-5 grains to the ounce; argenti nitras

¼-½%. *Suppurative* and *chronic:* argenti nitras 2%; protargol 20%; touch granulating lids with argenti nitras mitagatus. *Ulcerative* cf keratitis.

**Contusion. Harness, saddle.** Cold for first 12-24 hours (stream of cold water, ice pack, solution of ammonium chlorid); follow with hot antiseptic compress (creolin, sublimate, cataplasma kaolini), alcohol or camphor bandage; when resorption is incomplete and the acute symptoms have subsided use liniments with massage, or mild blisters. *Abrasions:* pyoktanin, sulphur iodid in oil, zinci sulphas, plumbi acetas, tannin, sublimate, alum. *Prophylaxis:* toughen the skin with tannic acid ℞ 3, or alum; hair harness pads as a protection (cool and porous); raised zinc pad over the neck at the top of the collar; on removal of harness apply cold water and follow with alcohol, alcoholic solution of pyoktanin, or tannin solution. **Shoulder:** recent bruises are treated as above. When the acute symptoms recede and the resorption is incomplete apply resorbents: equal parts green soap and unguentum hydrargyri; unguentum hydrargyri; hydrargyri iodidum rubrum; cantharides 1:10-15 alcohol; mild blisters; liniments and massage. *Operative* in absence of acute symptoms (heat and pain): free incision of recent hematomas (do not follow with irrigation or tampon); enucleation of fibromas and organized hematomas; incision and irrigation of abscesses, follow with antiseptic tampon (sublimate gauze) for 24 hours, then treat as an open wound: daily irrigation followed with plenty of dusting-powder. **Elbow** (Shoe Boil). Recent contusions are treated like harness and saddle bruises. When the acute symptoms recede treat like contusions of the shoulder. *Prophylaxis:* provide enough bedding to prevent bruising of the elbow on

hard floors; tie a pad on the hoof to prevent injury from the heel calks. **Hematoma.** A subcutaneous collection of blood-serum following a bruise. After 3-6 days make a free incision on the lower part of the swelling, press down the skin to exclude the fluid and bring the walls of the cavity in contact, *do not irrigate, pack, or infect with the hands* (healing *per prima*), disinfect the skin around the margins of the wound, and wash away the wound secretions that exude from the cavity.

**Coryza** cf nasal catarrh.

**Cough** cf nasal catarrh, pharyngitis, laryngitis, bronchitis, pneumonia, alveolar emphysema.

**Crop, Catarrh of.** *Evacuation:* suspend the bird by the feet and gently massage the crop; or give teaspoonful doses of 1% tartar emetic solution every 15 minutes. Follow evacuation with astringents (dram doses of a 2% boric acid or tannin solution), digestants and bitters (dram doses of very dilute hydrochloric acid, 30 drops of tincture of gentian several times daily).

℞
Hydrargyri chloridi mite gr. i
Sacchari lactis gr. xxx.
M. Sig. For a hen

℞
Sodii bicarbonatis
Pulv. rhei
Pulv. menthae piperatae aa 3 i.
M. Sig. A little on the point of a knife several times daily.

**Impaction of crop:** evacuation as in catarrh; or incise, remove the contents and suture (prognosis good). After-treatment: as in catarrh.

**Curb** cf capped hock.

**Cyst.** *Oral* (ranula). Incision; excision with forceps and scissors; cauterize the cavity with argenti nitras or tincture of iodin.

**Cystitis** (Cystic Catarrh). Provide complete rest in a warm room or stable with free access to water, and provide non-irritating food. *Sedatives* in irritation: belladonna. *Antiseptics:* urotropin ℞ 1, benzoic acid, acetate of potash, salol. Evacuate the bladder with a sterile catheter or by means of pressure with the hand in the rectum. *Irrigate:* acid boric, or alum (1-3%). *Balsams* in the chronic form: spirits of turpentine, buchu, uva ursi, copaiba, balsam Peru, oil of sandalwood, juniper.

**Dandruff** (mane, tail). Cleanse with warm water and tar soap, gasolene, creolin, or solution of soda; apply tar antiseptics; pyrogallol. See seborrheic eczema, and acne.

**Decubitis.** Astringent antiseptics: plumbi acetas, alumen ℞ 1, liquor alumini acetatis. Ointments: zinci sulphas. Desiccants: amylum, acid boric, tannoform, tannin, oak bark, talcum. In necrosis apply hot antiseptic packs, or alcoholic packs until demarcation occurs, then operate.

**Dermatitis.** For pustular dermatitis on the extremities of the dog apply plumbi iodidum. See eczema, acne, decubitis.

**Diarrhea.** See gastro-intestinal catarrh, white scours, and gastro-enteritis.

**Distorsion** cf sprain.

**Dog Distemper.** Keep in a warm place and provide plenty of air free from drafts. Intensive feeding with easily digested food: milk, beef broth, yolks of eggs, boiled meat, mucilaginous soups in gastric irri-

tation. *Symptomatic:* see gastro-intestinal catarrh, emesis, diarrhea, bronchitis, pneumonia, conjunctivitis. *Nervous symptoms:* bromids, chloral, morphin. *Paralysis:* strychnin, arsenic, electricity, or thermocautery along the back. *Heart weakness:* strychnin, camphor, caffein, tincture strophanthus. *Vaccines* and serums.

**Dummies** cf hydrocephalus.

**Dysentery.** See gastro-enteritis, gastro-intestinal catarrh, white scours.

**Eclampsia.** Morphin per subcutis (specific in bitches). Inhalation of chloroform; chloral hydrate.

**Eczema. Acute.** Cleanse the parts with oil (cottonseed, olive, liquid petrox, to which 1-3% salicylic acid may be added), antiseptic solutions (creolin, therapogen), astringents (alum ℞ 1, liquor alumini acetatis, liquor antisepticus, plumbi acetas ℞ 1), or gasolene. *Moist form:* dry the skin and apply absorbents (acid boric—pulvis antisepticus, amylum, talcum ℞ 1 and 2, zinci oxidi ℞ 1 and 2, glycerinum, acid salicylic ℞ 3), alcoholic antiseptics, silver nitrate 2-10%, picric acid 1%. *With less secretion* apply ointments, pastes, and solutions: zinci oxidum ℞ 1 to 5, unguentum hydrargyri ammoniati, liquor alumini acetatis, liq. plumbi subacetatis—see plumbi acetas. *With irritation* apply suspensions: plumbi acetas ℞ 2, liquor alumini acetatis ℞ 1, linimentum exsiccans (Pick). Avoid soap, water, and tar, except in dry eczema. **Chronic.** *Moist:* powders and pastes as in the acute form, formalin ℞ 1. *Dry* (squamous): pix liquida ℞ 1 to 5; creolin baths, ointments, and liniments; sulphur iodid in oil; linimentum exsiccans ℞ 1; petrox compounds; phenol ℞ 1 and 2; naphthalin. *Seborrheic* (dandruff, scurf): sulphur sub-

limatum ℞ 2 and 3, sulphur lotum (ung.), zinci oxidum ℞ 5 and 6, pix liquida ℞ 1, acidum tannicum ℞ 1, resorcinol ℞ 1 to 3, creosote ℞ 2. *Follicular:* avoid tar, otherwise as seborrheic; sulphuris sublimatum ℞ 1. Liquor calcis sulphuratae, or acid chromic 3% in sweat eczema, harness and saddle eczema.

**Edema.** Pulmonary cf congestion. **Subcutaneous:** hot compress on extremities to promote resorption; cold shower; belladonna liniment combined with massage; scarification followed by antiseptics when edema becomes excessive. Treat primary cause: heart disease, purpura, insufficient exercise.

**Emesis.** Remove the cause in indigestion (emetics and laxatives to evacuate the bowels), otherwise suppress. Ice over the stomach in small animals, ice to swallow. *Narcotics:* chloral, morphin, cocain. *Aromatics:* ether, alcohol, camphor, aromatic spirits of ammonia. In the horse evacuate the stomach through stomach-tube. Give medicine through a stomach-tube to dog and cat to avoid emesis.

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|---|---|
| Cocainae hydrochloridi | gr. ii |
| Aq. chloroformae | ʒ iii |
| Syrupi zingiberis | ʒ i. |

M. Sig. Teaspoonful to tablespoonful every 2-4 hours for a dog.

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|---|---|
| Tincturae opii | ʒ iiss |
| Tinct. nucis vomicae | ♏. xxx. |

M. 10-20 drops for a dog (Fröhner).

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|---|---|
| Bismuthi subnitratis | ʒ iiss |
| Acidi hydrocyanici dil. | ♏. xx |
| Aq. chloroformae q.s. | ʒ ii. |

M. Sig. Shake. Teaspoonful every 2 hours for a dog.

**Enteritis** cf gastro-enteritis.

**Entropium.** Treat the conjunctivitis in the first stages. Excise a piece of skin from the lower lid and suture so that the lid is turned out (everted).

**Epilepsy** (Stomach Staggers). Light work, good care, laxatives (prolonged administration of small doses of salts), bromides (sodium or potassium). Vermifuges in pigs (ascaris) and dogs (tape-worms): santonin, areca, kamala, aspidium.

**Epistaxis** (Nose-bleed). Rest; when persistent place ice over the frontal and nasal regions; inject astringents into the nostrils (alum 3%, adrenalin solution 1:1000). Perform tracheotomy and pack the nostrils with gauze tampons soaked in hot creolin solution. Extract of ergot per subcutis. Two per cent gelatin solution in .6% salt solution per vein. Narcotics to control excitement when present.

**Esophagitis.** Demulcent and astringent drinks: linseed, potassium chlorate. Add cocain in intense pain, or give morphin.

**Estrus Equi** cf carbon disulphid.

**Exanthema. Food** (potatoes, distillery slop). Increase the roughage; exercise. Lime ʒ 2-4, or lime water 2-3 quarts daily. Keep the animals clean and dry. *Local treatment:* see eczema and phlegmon.

**Eye-lids** cf wounds.

**Fistula.** Clear the tract of foreign bodies or necrotic tissue (fascia, bone). Destroy the fistulous wall; curet, operation, cauterization, caustics (zinc chlorid, corrosive sublimate, copper sulphate); drain, irrigate, and disinfect.

**Lateral Cartilage** (Quittor). *Cauterize* daily with a cherry-red iron until the bottom of the fistula is

reached. This usually requires three or four days in mild cases, and when the lameness is slight the animal may be put to work as healing seems to occur faster with light exercise than with the animal standing at rest. *Caustics:* zinc chlorid, arsenic, corrosive sublimate. *Operation:* resection of the lateral cartilage according to Bayer.

**Salivary.** Destroy the parotid gland with intraglandular injections of Lugol's solution. Ligate the duct between the fistula and the gland. Scarify the fistulous wall and close with tobacco-pouch suture.

**Tooth.** Remove the tooth. When it persists as the result of a diseased or splintered bone the external opening should be enlarged with a curet or chisel, and all of the diseased bone removed in a similar manner, provide drainage, irrigate, pack for 24 hours with sublimate gauze, then remove and treat as an open wound (daily irrigation with weak antiseptics or soda solution, disinfection, curettage of excessive and badly infected granulations).

**Spermatic cord.** When the fistula is small disinfect, or use caustics: zinci chloridum, argenti nitras, corrosive sublimate. Surgical removal of the thickened cord. Potassium iodid internally (conflicting reports).

**Flies. Horn flies on cattle.** *Soap emulsion:* dissolve one-half pound of hard soap in a gallon of hot water; while still hot add one-half gallon of kerosene and shake. Use one part to eight or ten of water; apply in the form of a spray. *Milk emulsion:* milk 1, kerosene 2, shake, use one part to eight to ten of water, apply in the form of a spray. Creolin ½-1%.
**Wounds.** Tar, creolin, oil of tar, acetanilid, iodoform, alum, naphthalin, eucalyptus. *Laurel oil* alone; or

mixed with 10 parts linseed oil; or laurel oil 1, denatured alcohol 4, linseed oil 5. Said to be very efficient.

**Foal-lameness** cf navel-ill.

**Foot-rot. Cattle.** Place air-slaked lime to a depth of four inches where the animals will walk through it several times daily, sprinkle it on the back part of the stall beds. Avoid mud in lanes and yard. Cleanse and disinfect between the claws: creolin, phenol, 1:500 alcoholic sublimate under bandage, cupri sulphas. Apply desiccants under a bandage: acetanilid, acid tannic, acid boric, *calomel. Severe:* cleanse; remove all necrotic tissue; moist antiseptic bandage until sloughing has stopped, then dry bandage (calomel, boric acid, tannin). **Sheep.** Segregate the diseased animals. Stand the sick and well for two to five minutes in one of the following: chlorinated lime 5% solution, phenol 3%, cupri sulphas 10%. *Severe:* treat as in cattle.

**Forage Poisoning** (Mycotic Indigestion; Intestinal Intoxication; Botulism). Dummy-like symptom (paresis): laxatives and purgatives: aloin drams 4-8 for a horse; sodii sulphas one to two pounds daily; aloes; arecolin combined with strychnin. Purge the animal as soon as possible, though it sometimes requires heroic doses of salts or aloes. Administer medicine in the form of an electuary or pill (danger of foreign-body pneumonia from paralysis of the pharynx). Change the food and give a light laxative diet.

**Fowl Cholera.** Treatment is useless. *Prophylaxis:* quarantine new birds for one to two weeks. Remove all well birds to non-infected pens; kill and burn or bury the sick; remove and destroy droppings

at least once daily. Cleanse and disinfect pens and utensils: phenol, acid carbolic crud., calx, formalin, corrosive sublimate, liquor cresolis compositus.

**Galls** (harness, saddle) cf contusions.

**Gastric Distension** cf indigestion, acute.

**Gastroenteritis.** *Laxatives* (ol. ricini, sodii or magnesii sulphas, calomel) with demulcents (℞ 11, pg. 10). *Intestinal antiseptics:* creolin, therapogen, sodium or acid salicylate, tannoform, sulphocarbolates. *Stimulants:* strychnin, *ol. camphor* per subcutis, caffein, coffee, aromatic spirits of ammonia, digitalis, alcohol. *Nourish* with warm demulcent drinks containing eggs, milk, whiskey, etc. Control pain with narcotics: chloral, morphin. Check excessive purgation: tannin, morphin, tannoform. Keep the patient warm, dry, and clean. Remove feces promptly, disinfect dirty walls. In threatened collapse give warm sterile salt solution (teaspoonful of salt to the quart of sterile water) per vein, subcutis, or rectum. H. & C. 4-5 quarts; small animals 8-16 ounces.

**Gastro-intestinal Catarrh. Acute in horse and cow.** Withhold feed entirely or restrict the amount (mashes, roots, fine hay). Allow free access to water. Laxatives: one-half to one pound of salts daily with glycyrrhiza as an electuary; add gentian or nux vomica. Digestants and intestinal antiseptics: acidum hydrochloricum dilutum, creolin, therapogen. *Diarrhea:* laxatives followed with intestinal antiseptics (creolin, therapogen, sulphocarbolates) and styptics (tannin, oak bark, tannoform). In weakness or collapse give stimulants as in gastro-enteritis. **Acute intestinal catarrh in carnivora (Dog, Cat).** Restrict the diet to beef broth, milk, and vegetable soups. *Gastric engorgement:* emetics (apomorphin),

or laxatives (ol. ricini, calomel), or irrigation with the stomach-tube. Follow with digestants: pepsin, hydrochloric acid. *Emesis:* ice over the stomach, morphin, solution of bicarbonate of soda, aromatic spirits of ammonia, see prescriptions under emesis. *Diarrhea:* give laxatives and follow with intestinal antiseptics and astringents (acid lactic ℞ 1, pulvis rhei comp., bismuth subnitrate ℞ 1, opium, tannin, tannoform). When chronic irrigate per rectum with clysters of argenti nitras 1-5:1000, alum or tannin 1-2%. **Swine.** Laxatives: ol. ricini, sodii sulphas. *Emetics:* veratrin ½ grain per subcutis. **Diarrhea in sucklings and young.** Restrict the diet. *Laxatives:* ol. ricini. *Intestinal antiseptics* and astringents: creolin, therapogen, salol, bismuth, argenti nitras (chronic), acid salicylic, opium, rheum, mistura contra diarrhoeum, tannoform, tannin. *Antacids:* sodium bicarbonate, milk of magnesia, lime water. *Stimulants and demulcents:* mucilaginous drinks (acacia, demulcent ℞ 11 pg. 10, marshmallow, oatmeal) with eggs and whiskey; camphorated oil; strychnin; caffein; aromatic spirits of ammonia; chloral in pain. *Carminatives:* ginger, turpentine, capsicum. In threatened collapse give two quarts of a sterile salt solution (teaspoonful of salt to a quart of sterile water) per vein, subcutis, or rectum, or use blood transfusion.

**Gastro-intestinal Catarrh. Chronic.** Succulent green food, fine hay, roots (carrots), mashes. Acidi hydrochlorici dilutum in the drinking water. Sal Carolini factitii ℞ 1, sodii bicarbonas. Combine tannin and gentian, one-half to one ounce of each daily. Give a purgative followed with styptics (tannin) and intestinal antiseptics (therapogen). **Carnivora.** Dilute hydrochloric acid, gentian, nux vomica, Carlsbad

salts before meals (teaspoonful in water). In excessive fermentation give salicylates before meals (gr. 4-8).

**Gid** (Coenurus Cerebralis). Prophylaxis: destroy dogs; tape-worm treatment for dogs every two to three months (kamala, aspidium, areca). Burn the heads of affected sheep.

**Glossitis** cf stomatitis.

**Goitre. Horse:** inject into the gland 2½ to 5 cc. of Lugol's solution, repeat in 10-14 days; tincture of iodin externally; potassium iodid internally. **Dog:** tincture of iodin or petrox iodin externally; parenchymatous injection of Lugol's solution; potassium iodid and glandulae thyroidae internally.

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|---|---|---|
| Iodoformi | | 1 |
| Ol. olivae | | |
| Aetheris | aa | 5. |

M. Sig. Parenchymatous injection of ½-1 cc. for a dog with goitre.

**Grease-heel** (Verrucose Dermatitis). Formalin pack 1:400 daily, curetting away the softened tissue after each removal of the bandage, with improvement alternate with dry dressings (tannin, boric acid). Pare away excessive growths with a sharp scalpel, cauterize with a cherry-red iron, apply powder (tannin, etc.) under a bandage. Single application of a 10% aqueous solution of chromic acid followed with a bandage (Fröhner). Turpentine, or alcoholic sublimate bandage.

**Heart Weakness.** Digitalis, caffein, tincture of strophanthus, *ol. camphor per subcutis*, nux vomica ℞ 1, belladonnae folia ℞ 1, aromatic spirits of ammonia.

**Heat Eruption** cf chronic follicular eczema and acne.

**Heaves** cf alveolar emphysema.

**Hematoma** cf contusion.

**Hemorrhage. External.** *Parenchymatous:* irrigate with warm creolin solution; apply 1:1000 adrenalin solution; tampon; pressure bandage; cautery. *Arterial:* forceps (Oschner's in deep vessels); ligature. **Internal.** *Uterine:* ergot (Squibb's extract, 3 ½-1 per subcutis in aqueous solution); adrenalin solution 1:1000-5000 per vein, or continuous intravenous injection of 1:10000 adrenalin solution in .6% salt solution in collapse. *Pulmonary:* narcotics to suppress excitement and cough (morphin, chloral); injections of camphorated oil have been reported as very effective in human medicine; vasodilators (nitroglycerin every 15 minutes to 3 hours; aconite); adrenalin (efficiency questioned); stimulants in after-weakness (digitalis, strychnin, camphor). *Nasal* cf epistaxis.

**Hernia.** *Recent:* expectant treatment in the young, as the animal develops the hernia disappears. Hot compress under suspensory bandage, restrict the diet, and give mild laxatives. *Operative treatment. Palliative:* compression with a tampon and bandage; blister or caustics used with caution (paint lightly with concentrated sulphuric acid, or dilute with 3 parts water or alcohol; single application of chromic acid 2, to water 1); ligation; suturing (harness-suture to slough off the hernial sac); clamps. *Radical:* incise the skin, return the hernial sac with contents into the abdominal cavity, suture the hernial ring, suture the skin, and apply an antiseptic pack under an abdominal bandage. **Scrotal** in stallions: with the

hand in the rectum pull gently on the intestine to bring it back through the inguinal ring, while an assistant grasps the scrotal sac and pushes up from below; after the intestines have been returned into the abdominal cavity apply counter-irritants in the form of a mild blister over the region of the external inguinal ring, and support the testicles in a suspensory. **Inguinal** with incarceration: as scrotal; or castration by means of the covered operation, enlarging the internal ring at the anterior margin if necessary for the return to the abdominal cavity of the hernial contents, suture the internal ring, pack with a sublimate gauze tampon held in position with skin sutures.

**Hip Lameness.** *Acute:* permanent cold irrigation; massage with rubefacients (linimentum, unguentum hydrargyri, petrox compounds, tincture of iodin); hot compress; alcohol or camphor compress. *Chronic:* blisters (hydrargyri iodidum rubrum, cantharides, ol. tiglii); thermo-cautery with blisters; irritants per subcutis or intramuscular (veratrin gr. 1½ to water 3 i—Moeller; sodii chloridi 10%; Lugol's solution and water equal parts), inject under the skin or directly into the muscles over the hip joint.

**Hollow Wall.** *Hoof.* Cleanse the cavity until normal white line is reached; fill with oakum and tar to exclude filth; cut away the wall to relieve pressure from the shoe; apply a bar shoe with frog pressure over oakum and a leather pad. Complete removal of the loose or undermined wall.

**Hydrocephalus, Chronic** (Dummies). Laxative food, light work, protect the animal from the sun. *Laxatives:* sodii sulphas one-fourth to one pound daily; aloin drams 4-8; strychnin. Pilocarpine or

arecolin 2-3 grains daily, usually less efficient than salts.

**Hydrothorax.** Dry food. Treat the primary disease (contagious pleuropneumonia, heart disease). *Laxatives:* Carlsbad salts. *Diuretics:* digitalis, potassium acetate, juniper, turpentine, caffein ℞ 2-3. *Paracentesis* daily is the most efficient treatment.

**Icterus.** See acute gastro-intestinal catarrh (catarrh of the duodenum and bile duct), influenza, azoturia, purpura, anemia (degeneration of the blood).

**Impaction** of indigestion.

**Impotency.** Intensive feeding except in fat animals; exercise; nux vomica; cantharides; *yohimbin* (Merck). Examine genital organs and secretions for evidence of infection.

**Indigestion, Acute. Horse.** GASTRIC, MILD. Withhold all food. *Laxatives:* sodii sulphas, ʒ 8-16; arecolin, gr. ¼-½; aloin; aloes. *Antiferments:* oleum pini; aromatic spirits of ammonia, creolin, ol. turpentine, therapogen. *Carminatives:* ginger, capsicum. *Severe:* relieve tympany with the stomach-tube passed through the nose or mouth. When the stomach is distended with food remove this through the tube by means of repeated injections, syphoning out as much as possible after each injection. *Narcotics* in intense pain: chloral, cannabis Indica per vein. Follow recovery from the acute symptoms with Carlsbad salts ℞ 1; dilute hydrochloric acid; arseni trioxidum ℞ 3. Restrict the diet during convalescence. INTESTINAL INDIGESTION. Withhold all food, move the animal at a slow walk, or place in a large box stall with deep bedding. Give laxatives, antiferments and carminatives as in the gastric form. Rubefacients on the abdomen (spirits of mustard, ol. turpentine); cold

water enemas to stimulate the peristalsis. INTESTINAL IMPACTION: give a quart of oil followed in a few hours with arecolin gr. ½-1, this may be repeated night and morning until the impaction is relieved. Rapid cathartics may also be used from the first. A useful procedure in any case where evacuation of the bowels is desired is to give ¾ to 1 grain of arecolin, followed in one-half to an hour with a similar dose of eserin. Withhold all food until the impaction is relieved. Give clysters of warm water injected slowly and in large quantities, allow free access to water, give strychnin in small doses, massage the flanks, rubefacients over the abdomen. TYMPANY: enemas of cold water, ether (℥ ½) in a pint of water, or soap and glycerin in water. Cold water on the abdomen; massage the flanks; trocarize under antiseptic precautions at the point where the distension is greatest. Laxatives: arecolin and eserin in small doses, sodii sulphas.

**Acute Indigestion in the Cow.** Withhold all food. *Laxatives and purgatives:* arecolin and strychnin; sodii sulphas; aloes; barium chlorid; arecovetrol. *Antiferments:* capsicum, aromatic spirits of ammonia, creolin, therapogen, salicylates. Massage the rumen in the left flank except in cases of advanced pregnancy. *Rubefacients:* ol. terebinthinae, spirits of mustard, linimentum. In weakness and advanced pregnancy depend mainly on intestinal antiseptics (salicylates, creolin, therapogen) and heart stimulants (strychnin, caffein, ol. camphor, nux vomica ℞ 1); use mild laxatives repeatedly, avoid rapid and severe cathartics. After-treatment: Carlsbad salts and bitters (nux, gentian), or dilute hydrochloric acid. See tympany.

**Acute Indigestion in Swine.** Restrict the diet, give milk and roots. *Emetics* in gastric engorgement (veratrin ½ grain). *Laxatives:* three ounces of salts mixed with meal and linseed oil and given in the form of an electuary; or castor oil may be given in the milk.

**Acute Indigestion in the Dog and Cat.** Restrict the diet (milk, meat broth), or all food may be withheld. Restrict the amount of water. *Laxatives:* calomel, castor oil. *Emetics* in gastric engorgement (apomorphin). Stomachics.

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| Tinct. nucis vomicae | | ʒ i |
| Tinct. gentianae comp. | | ʒ iii |
| Acidi hydrochlorici dil. | | ♏. xxx |
| Aquae | q.s. | ℥ v. |

M. Teaspoonful to a tablespoonful three times daily for a dog.

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|---|---|---|
| Acidi hydrochlorici dil. | | |
| Pepsini | aa | ʒ i |
| Aquae | q.s. | ℥ viii. |

M. Sig. Teaspoonful to a tablespoonful 2-3 times daily for a dog (Schlampp).

**Indigestion, Chronic. Horse.** See gastro-intestinal catarrh. **Cow.** Withhold all food until after marked hunger is shown and recovery is complete, then restrict the amount and give plenty of salt. Massage the paunch in the left flank, except in cases of advanced pregnancy. *Laxatives and purgatives:* arecovetrol; sodii sulphas; aloin; arecolin and strychnin; aloes; barium chlorid. In persistent impaction introduce through a trocar or the stomach-tube 5-10 gallons of water into the rumen.

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| Antimonii et potassii tartratis | ʒ iv |
| Aloes | ℥ iss |
| Sodii sulphatis | ℥ xvi. |

M. Give in a drench to a cow with persistent impaction.

*Stomachics:* acidum hydrochloricum dilutum (one-half ounce 3-6 times daily well diluted); sal Carolini factitii ℞ 1. *Intestinal antiseptics:* creolin, therapogen, salicylates. In depression, weakness, or advanced pregnancy avoid shock, depend on antiseptics and stimulants as in acute indigestion. **Dog and Cat** cf gastro-intestinal catarrh.

**Influenza.** When possible segregate the sick and disinfect the stables (phenol, liquor cresolis compositus). Provide an airy dry place protected against drafts, avoid dark basement stables. In summer the horses should be turned in a yard in pleasant weather. Laxative diet: green grass, carrots, bran mashes. The medicinal treatment is symptomatic: nasal catarrh, pharyngitis, laryngitis, pneumonia, acute intestinal catarrh, gastro-enteritis, heart failure, depression. The coal tar antipyretics (acetanilid) should be avoided with the possible exception of extreme hyperthermia. Prevent constipation with small daily doses of Carlsbad salts. In weakness and depression stimulate: camphorated oil *per subcutis*, strychnin, digitalis ℞ 3. In the weakness and anorexia of convalescence the horse may be nourished with quart doses of milk to which a little whiskey has been added, this may be given per rectum or through a stomach-tube. Avoid routine treatment and heart depressants (aconite).

**Intestinal Catarrh** cf gastro-intestinal catarrh.

**Iritis** cf ophthalmia.

**Keratitis.** In infectious keratitis of sheep and cattle infiltrate the lid-sac once or twice daily with a 2% solution of argenti nitras. See conjunctivitis.

**Knee Tumors** (Precarpal bursitis; Precarpal Hematomas). **Cow.** For the treatment of recent cases see contusion, in cattle blisters may be used early. When the fluid is encapsuled make a free incision in the median line, follow with daily antiseptic irrigation, and blisters around the margin to promote resorption. In the summer apply oil of laurel to protect against flies.

**Laminitis. Acute.** *Laxatives:* arecolin gr. 1-1½ night and morning, pilocarpin, aloin, sodii sulphas. *Diuretics:* potassii nitras or acetas. Local cold applications in the very first stages (stand in cold water, hose) followed with heat (hot foot-bath). Adrenalin per subcutis in the region of the digital vein. **Chronic:** bar shoe with frog pressure, pack with tar and oakum under a leather sole, ease the wall pressure in the region of the toe. If an open shoe is used provide wide branches concaved above to protect the sole.

**Laryngitis. Acute** (Laryngeal Catarrh). Fresh air free from dust, drafts, and stable gases; laxative food (roots, beef broth for dogs) and laxatives (Carlsbad salts, calomel). *Cough:* heroin, morphin, codein, cf bronchitis. *Inhalants:* turpentine, menthol, creolin.

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| Heroini hydrochloridi | gr. viii |
| Potassii acetatis | ʒ iii |
| Tinct. aconiti | ʒ iv |
| Spiritus aetheris nitrosi | ʒ iv |
| Syrupi q.s. | O. i. |

M. Sig. An ounce every two hours for cough and fever in a horse. Teaspoonful doses for a dog.

**Laryngitis. Chronic.** See sedatives and expectorants in bronchitis. Potassii iodidum ℞ 1. Astringent antiseptics applied daily: argenti nitras 2-5%. In large animals inject through a small catheter inserted through the nasal passage, or through a needle inserted behind the larynx 5 cc. of a 1% argenti nitras solution. *Rubefacients* externally: tincture of iodin, cantharides, linimentum.

**Leucoma** (Turbid Cornea). Unguentum hydrargyri oxidi flavi or rubri (1-4%); dionin; dust calomel or iodoform on the cornea with a small brush; incurable when long-standing.

**Leucorrhea** cf catarrhal metritis.

**Lice** (Pediculosis). Creolin solution (2%) applied thoroughly and rubbed in with a stiff brush (palmetto); tobacco (5% of the decoction); pyrethrum; anise oil; unguentum hydrargyri dilutum; arseni trioxidum. **Hens:** sulphur or aniseed 2-5 parts to 100 of sand for a bath. White hellebore one part to aniseed two parts. Dust the birds with slaked lime. Gasolene 3, cresol 1, plaster of Paris enough to make a dry purplish powder. Disinfect the pens with a spray apparatus (liquor cresolis compositus, phenol, calx chlorinata).

**Licking Disease.** Cattle eat bones and fences. Acidum hydrochloridum dilutum; apomorphin; calcii phosphas praecipitatus; calcii carbonas praecipitatus; bonemeal.

**Lip-and-leg Ulceration.** Leafy roughage; sulphur iodid and oil (1:8) applied daily with a brush.

**Lung-worm Disease** (Strongylus Filaria). Remove the sheep and lambs from the infested pasture; intense feeding; water in troughs and not from the

ground; disinfect the pens. Drain and cultivate infested fields. *Intratracheal injections:* phenol 1%, 15 cc. for lambs, 20 cc. for calves; potassium picrate 1-2 to water 1000, 5 cc. for sheep, 50 cc. for cows.

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|---|---|
| ℞<br>Ol. terebinthinae<br>Ol. olivae aa 100<br>Creolini 10.<br>M. Sig. Inject into the trachea. 5 cc. for lambs, 20 cc. for calves; repeat twice at four-day intervals. | ℞<br>Creosoti 20<br>Ol. olivae 100.<br>M. Sig. Intratracheal injection. 5 cc. for lambs; 15-20 cc. for calves; repeat in four days. |

**Luxation of Patella** (Upward Luxation; Stifle-cramp—Bayer, Fröhner). Move the animal suddenly with whip or cold water; use fine short bedding in place of long straw. Blister when the luxation tends to persist.

**Lymphangitis** (Phlegmon of the hind Limb). Purgatives: arecolin, aloin, aloes, sodii sulphas in small daily doses as a laxative and resorbent. Diuretics: potassii nitras or acetas. See phlegmon for external treatment.

**Mange. Horse, Cow.** Clip the entire animal, scrub thoroughly with warm soap and water; remaining scabs may be removed after softening with oil for 24 hours, gasolene is useful in removing dandruff. Follow with *parasiticides:* Individual cases respond well to Vienna Tar Liniment—one part each of tar and sulphur, two parts each of green soap and alcohol, mix and rub in thoroughly with a stiff brush. When treating several animals the most practical and effective method is to dip in lime and sulphur solution. As a substitute for a vat one may use an ordinary spray pump attached to a barrel; this may

be applied warm three times weekly. **Sheep.** Sulphur iodid and oil 1:8-10; nicotin dip, keep the sheep in a .7% aqueous solution for two to three minutes (B. A. I.); sulphur sublimatum ℞ 4; creolin 2-3%. **Dog and Cat.** Pix liquida ℞ 1; balsam Peru; *cupri oleatum;* creolin liniment. Cleanse the skin as in treatment of mange in the horse. When the entire animal is to be treated apply the parasiticide to one-fourth to one-half of the body at a time, leave for 24 hours, remove, and repeat in another place. Schindelka recommends carbon disulphid in persistent cases with thickening of the skin. A pledget of cotton soaked with the drug is pressed firmly against the diseased part for a few minutes, after complete evaporation cover with formalin ℞ 1.

**Mastitis.** Milk frequently, restrict the diet, laxatives (salts, arecolin). Hot compress held in position with a suspensory bandage. *Rubefacients* and massage: acidum salicylicum ℞ 1; camphor ℞ 2; sapo mollis; linimentum belladonnae or terebinthinae; ichthyol ointment 10-25%. **Catarrhal:** irrigate the teat canal (pyoktanin 1:1000, boric acid, therapogen) under strict antiseptic precautions. Boric acid treatment: milk the udder completely dry; inject 120-180 cc. of a 3% sterile boric acid solution; milk out the udder in 3-4 hours; repeat the milking every 3-4 hours until recovery; repeat the treatment in three days if necessary. Bacterins, vaccines. **Abscess:** incise, irrigate, and disinfect.

| ℞ 1 | |
|---|---|
| Camphorae | 10 |
| Iodi | 5 |
| Adipis | 50. |
| M. Sig. Ointment for mastitis (Bang). | |

| ℞ 2 | |
|---|---|
| Sapo mollis | 100 |
| Acidi salicylici | 10. |
| M. Sig. Ointment for mastitis. | |

**Meconium, Retention of.** Repeated clysters of warm solutions of bicarbonate of soda through a horse catheter. Laxatives: ol. ricini.

**Metritis. Catarrhal.** Irrigate the uterus twice daily with warm mild antiseptics: therapogen, potassium permanganate. **Septic.** Irrigate one to three times daily through a rubber tube that reaches to the end of the affected horn; insert a second larger tube through the os uteri for the discharge of the fluid and exudate; use 5-6 gallons of mild antiseptic; after the fluid is removed leave in the uterus a pint of 2% Lugol's solution in liquid petrolatum. **Chronic Catarrhal** (Leucorrhea). Dilate the os uteri and douche the uterus once a week with saline solution. Follow with 2% aqueous solution of Lugol's, or 1:1000 acriflavin solution. Contraction of uterus is promoted by squeezing out cysts or corpora lutea, in some cases by the injection of pituitary extract.

**Milk.** Blue, red, yellow, soapy, slimy, bitter, etc. These conditions are usually due to some infection in the udder. Disinfect the udder as in mastitis (boric acid treatment), massage the udder several minutes after the injection. Wash and disinfect the cow: tail, abdomen, legs, udder. Disinfect the stall and utensils, protect against flies.

**Nail Punctures** cf wounds.

**Nasal Catarrh** (Coryza). Keep the animal in a warm well-ventilated place free from drafts or stable gases. Work lightly in mild cases. Give laxative food (carrots, bran mashes), and laxatives (small daily doses of Carlsbad salts). Inhalants: turpentine, creolin, menthol. Astringent antiseptics in nasal passage: alum, creolin, tannin 2%. ℞ 3, pg. 9; antimonii et potassii tartras ℞ 3 and 4.

**Navel. Impervious Urachus:** thoroughly cauterize the opening with a stick of argenti nitras fusus, insert into the external opening repeatedly until it is closed; or disinfect and ligate the end of the urachus and apply astringents (tannin, argenti nitras). **Inflammations of the Navel** (Omphalitis). Disinfectants (sublimate or creolin pack, tincture of iodin); incise, drain, and disinfect in suppurative omphalitis.

**Navel-ill** (Joint-ill; Omphalo-phlebitis). Drain and disinfect the navel. With slight arthritis apply hot antiseptic packs to the joints (phenol 5%, creolin 5%, sublimate), inunctions of grey mercurial ointment (33%), or petrox iodin 5-10%. General infection, see white scours (very fatal). *Prophylaxis:* provide for birth in a disinfected clean stall; disinfect the external genitals of the dam previous to the birth of the young; disinfect the stump of the cord (iodin, argenti nitras 10%, and dust with tannin or iodoform); isolate new-born animals; isolate calves from other animals for at least two weeks and feed only in clean sterile pails; frequent disinfection of the stables in which infection is present. *Polyvalent serum, serum from blood of dam.*

**Navicular Disease.** Soak the hoof thoroughly when dry and brittle; apply heel springs to spread the hoof; apply a four-calk shoe with bar to protect but not press on the frog, packing the hoof with tar and oakum and covering with a leather sole; rubber pads. Digital (low) neurectomy when proper shoeing and care of the hoof fails to relieve the lameness.

**Nosebleed** cf epistaxis.

**Ophthalmia. Periodic.** Lugol's solution 1 cc. injected into fatty pad twice a month. Darken the stall, withhold dusty roughage. Potassium iodid 3 2½ daily

with one to two week pauses if iodism appears; pack soaked with a 5% potassium iodid solution over the eye; iodipin 10% on the conjunctival mucous membrane daily, to this may be added adrenalin solution to make 1:5000 in congestion. When the acute symptoms relax use atropin gr. 1½ to distilled water 3 5 to keep the pupil dilated (prevents adhesion between the iris and lens).

**Orchitis.** Suspensory bandage over a hot pack (hot water, cataplasma kaolini); chloroform ℞ 2.

**Otorrhea** (Otitis). Cleanse the part with a warm solution of bicarbonate of soda. Follow with astringent antiseptics: acid boric ℞ 2; acid tannin 5% in alcohol or glycerin; argenti nitras; acid salicylic; creolin; zinci sulphas; bismuthi dithiosalicylas; antiseptic powders, cf pulvis.

**Oxyurus** cf worms.

**Paralysis. General.** See forage poisoning, cerebrospinal meningitis, septic metritis. **Peripheral:** strychnin, veratrin, massage, blisters, firing with a small point over the affected parts, or electricity. **Pharyngeal:** feed through a stomach-tube, examine for tumors or pus. Treat with electricity and massage. The prognosis is bad. **Postpartum** (Parturient Paresis; Milk Fever). Infiltrate the udder with air or oxygen. Adrenalin solution per vein or subcutis. Excitants: camphor, caffein. After-treatment: laxatives, light diet, and bitters. Prophylaxis: laxatives and light diet previous to parturition; incomplete removal of the milk from the udder for one week after calving.

**Paraplegia** (Sacral Paralysis). Place the animal in slings; liniments and mild blisters over the lumbar region; strychnin per subcutis.

**Paresis** cf paraplegia and paralysis.

**Parotitis.** Acute: hot antiseptic pack; cataplasma kaolini. Subacute: rubefacients (spirits of mustard, unguentum hydrargyri, linimentum). Chronic: blisters. Abscess: incise early.

**Parturient Paresis** cf paralysis postpartum.

**Peritonitis.** Light laxative diet. Rubefacients on the abdomen: spirits of mustard 10-15%; camphor, alcohol, or Priessnitz bandage. Demulcents: ℞ 11, pg. 10. Sedatives in extreme pain: morphin, cannabis Indica. Intestinal antiseptics: creolin, therapogen, salicylic acid, calomel. Circulatory stimulants: camphorated oil per subcutis, digitalis, saline enemas, strychnin.

**Pharyngitis.** Fresh warm air free from dust and stable gases. Laxative food (grass, roots, bran mashes, leafy hay), promptly remove all food not eaten. Keep the nose and manger clean with disinfectants. Cool fresh water often with potassium chlorate ʒ 1 to the pail. In severe pain withhold food and water for one or two days giving enemas of water for thirst. External applications of heat (creolin, cataplasma kaolini) or rubefacients (spirits of mustard). Incise abscesses early. In severe dyspnea perform tracheotomy. Give nourishment through a stomach-tube (oatmeal water, linseed meal water) if it can be done without causing excitement or irritation. Inhalants: creolin, oil of turpentine, benzoin, menthol, phenol. Astringent antiseptics through the nose by means of a special spray apparatus, or small catheter attached to the end of a syringe: argenti nitras 1%, potassium chlorate 5%, hydrogen peroxid, tinct. ferri chlor. 2%, tinct. iodin 10% in glycerin. Expectorants: antimonii et potassii tartras ℞ 2 in

first stages; ammonii chloridum with free exudation; combine expectorants with sedatives in pain and cough and give in the form of a syrup or electuary (powdered licorice root and water, molasses, honey). See potassii chloras ℞ 1 and 2, ammonium chlorid ℞ 1.

| ℞ 1 | ℞ 2 |
|---|---|
| Tinct. ferri chlor. ʒ iii<br>Potassii chloratis ʒ i<br>F. E. hyoscyami ʒ i<br>Glycerini ʒ ii<br>Aquae q.s. ʒ viii.<br>M. Sig. One ounce every 2-3 hours in phlegmonous pharyngitis. | Ammonii chloridi<br>Anisi aa ʒ i<br>Sal Carolini fac. ʒ viii<br>Glycyrrhizae et aquae q.s. electuarii.<br>Sig. Give a tablespoonful with a paddle on the tongue several times daily (v.k.). |

**Phimosis** of prepuce.

**Phlegmon.** *Acute:* hot antiseptic compress (creolin, sublimate, cataplasma kaolini); alcohol or camphor bandage; camphor ointment, see petrox; avoid counter-irritation. *Subacute:* massage with resorbents (linimentum, sapo mollis, unguentum hydrargyri dilutum) under a bandage; in later stages use mild blisters under a bandage. **Phlegmon of hind limb** (lymphangitis): purgative (aloes, aloin, arecolin, pilocarpin); hot compress on the leg; camphor or alcohol bandage; bathe with hot water or astringents (acid picric, acetum). In later stages use massage and resorbents (linimentum, sapo mollis, mercurial ointments). After the swelling and acute pain recede give the animal light exercise, and give an after-treatment of resolvents (Carlsbad salts).

**Placenta. Retention.** Remove after 24-72 hours. Wash and disinfect the external parts; carefully separate the fetal and maternal placentae; in the

presence of infection or putrefaction follow with irrigation as in septic metritis (5-6 gallons of a weak antiseptic solution); when discharge follows removal irrigate daily until closure of the os uteri. See metritis. After removal leave a pint of liquid petrolatum in the uterus.

**Pleuritis.** Fresh air free from dust and drafts. Rubefacients over the chest: spirits of mustard, turpentine liniment, ammonia, see linimentum. Laxatives: salts, or Carlsbad salts one to two ounces daily. Diaphoretics and vasodilators in the first stage: aconite, spirits of nitrous ether, spiritus glycerylis nitratis. Narcotics for pain: morphin, chloral. See hydrothorax.

**Pleurodynia** cf pleuritis, and congestion (pulmonary).

**Pneumonia. Bronchial** (Catarrhal). See lobar pneumonia and bronchitis. Segregate the sick, take daily temperatures of the well. Perform paracentesis daily in hydrothorax. Disinfect the stalls.

**Pneumonia. Calf** (Infectious Pneumonia). Isolate cows advanced in pregnancy; disinfect the calf pens; segregate the sick; intensive feeding and pure air; give creosote in the milk; apply spirits of mustard on the chest; stimulate with camphor, caffein, and ammonia as in lobar pneumonia, which see. Vaccines, bacterins, serum.

**Pneumonia. Gangrenous.** Usually fatal. Inhalants: creolin, tar, creosote. Intratracheal injections through a tracheotomy tube of equal parts oil of turpentine and olive oil, or 1% creosote solution, or glycerin and tincture of iodin 10%. Turpentine, camphor, and creolin internally.

**Pneumonia. Lobar** (Croupous; Fibrinous). Fresh air free from dust and drafts; warm blankets and bandages in cold weather; slings and stimulants in weakness; massage the legs; laxative palatable food (grass, leafy hay, roots, mashes) in small amounts and often; water frequently. For early congestive stage with rapid pulse and high fever see congestion (pulmonary). *Internal treatment:* saline laxatives in small repeated doses to control constipation (sal Carolini factitii). Give stimulants in marked depression and heart weakness: camphorated oil *per subcutis*, camphor, digitalis, caffein, tincture of strophanthus, alcohol, ammonia (aromatic spirits, carbonate).

℞ 1
Strychninae sulphatis gr. vii
Digitalini Germanici gr. ix
Atropinae sulphatis gr. ii
Aquae ʒ ii.
M. Sig. 5 cc. per subcutis in great circulatory depression in horse or cow. ½ cc. for a large dog.

℞ 2
Potassii iodi ʒ i
Ammonii chloridi ʒ ii
Aquae q.s. ʒ viii.
M. Sig. One-half ounce 4 times daily in stage of consolidation.

In dyspnea give lobelia, belladonna, or spirits of nitrous ether. In resolution give expectorants: ℞ 3, pg. 9; ipecacuanha; antimonii et potassii tartras; ammonii chloridum. See bronchitis. Depend mainly on pure air, and stimulation in weakness and collapse, avoid routine treatment and useless medication.

**Pododermatitis. Superficial** (dark thin exudate): remove enough horn to supply drainage and apply hot antiseptic packs (creolin, sublimate); follow with antiseptic powders under bandage, cauterize with

thermo-cautery or lunar caustic. **Aseptic** (contusions of the pododerm; corns). Soak in warm water for 12-24 hours; apply a bar shoe to distribute concussion and relieve pressure on the bruised part, packing the sole with tar and oakum and covering with a leather sole. Bruises at the ends of the branches (corns) may be relieved by paring down the corresponding plantar border of the wall so that it does not come in contact with the shoe (remove all pressure from the affected quarter). **Suppurative** (deep): remove all undermined horn and thin the horn around the margins of the wound to avoid intense pain from protrusion of the pododerm (hernia of the pododerm). When the pododerm is infiltrated with pus it should be thoroughly removed by means of a curet, then cauterize with a thermo-cautery or lunar caustic, and cover with a moist or dry antiseptic tampon (sublimate, creolin, *formalin* ¼-1%, tannin, tannoform, iodoform) held firmly in position with a bandage, or wood or steel splint when the shoe is retained.

**Poll-evil.** *Acute* inflammation of the poll (contusion), see contusion for treatment. *Suppurative bursitis:* operation—remove the overlying ligamentum nuchae, excise the newly-formed sclerotic tissue, make a gutter in the occipital crest, and pack with sublimate gauze (William's operation).

**Pox, Horse** cf coital vesicular exanthema.

**Prepuce. Inflammation.** *Acute:* prolonged irrigation with hot antiseptics (creolin), apply a hot antiseptic suspensory when the tissues are swollen or phlegmonous, in the later stages inject astringent antiseptics into the prepuce (cupri sulphas, zinci sulphas, argenti nitras 1-2%, alumen). *Cattle:* irri-

gate the prepuce with a warm saline solution, or potassium permanganate; when the acute symptoms have passed use astringent antiseptics as above. *Dog:* prolonged use of astringent antiseptics (lead, argenti nitras, alumen). **Phimosis.** Treat the acute symptoms as in inflammation; remove the chronic thickenings by means of a surgical operation. With extensive adhesions around the end of the penis make an artificial opening into the urethra through the ventral surface. **Paraphimosis:** compress of hot creolin solution, apply astringent antiseptics (alum, tannin), surgical removal of chronic thickenings, when otherwise incurable amputate the penis.

**Prolapse. Rectum.** Intestinal astringents in diarrhea (check the diarrhea); laxatives in constipation. Raise the hind parts; bathe the prolapsed tissues with astringent antiseptics (alumen, lead) and return; control straining with local anesthetics applied in mucilaginous clysters, or administer chloral. *Pigs:* trim down the prolapsed part with scissors, disinfect with astringents and return. **Uterus.** Narcotize the animal (chloroform, chloral); elevate the hind parts; thoroughly cleanse the uterus by washing repeatedly with a warm solution of bicarbonate of soda having the uterus supported on a sheet or in a large dish-pan to protect it from filth; disinfect with a mild antiseptic (therapogen, creolin); replace with the hands; fill the horn of the returned uterus with a warm solution of bicarbonate of soda or creolin to fully return the end of the horn; control any straining that may be present with chloral, when returned promptly and carefully straining is rare. **Vagina.** Cleanse, disinfect, and return the prolapsed parts; retain with a shoe-lace suture of raw-hide belt

lacing inserted through the thick skin on either side of the vulva, or the parts may be held in position with an iron truss. Build a platform to raise the hind parts in animals that have a tendency to prolapse (prophylaxis).

**Pruritus.** Laxatives and laxative foods (carrots) for well-nourished animals. Arsenic, salts, and creolin internally to correct a possible gastro-intestinal catarrh. Externally apply a 1-5% alcoholic or glycerin solution of salicylic acid, phenol, or tar. Daily baths in which there is tar soap, or creolin. Menthol ℞ 2-6, phenol, chloral camphoratum, cocain, resorcin, formalin ℞ 2.

**Purpura.** Solution of adrenalin per vein or subcutis, fresh air, an abundance of nourishing food, belladonna externally when the parts are badly swollen, tracheotomy as soon as the swellings around the pharynx threaten dyspnea, avoid pressure from halter straps on the affected parts. Hydrochloric acid ʒ ½ to a pail of water, quinin, protargol per vein (3 2-5 of a 5% solution 2-3 times daily), iron preparations, turpentine. Blood transfusion.

**Quarter Cracks.** Prevent movement of the affected part by making a V-shaped groove, the branches of the V meeting below the lower end of the crack; apply a bar shoe with leather sole and oakum packing to remove pressure from the affected quarter. Fixation of the crack with clamps, spring, or bandage around the hoof. The essential feature is to prevent movement of the horn, or concussion at the coronary band. **Side-wall cracks:** provide rest as above, and pare away the corresponding part of the plantar border of the wall to prevent concussion of the affected part. **Toe-crack:** cut out a half-moon sec-

tion from the plantar border of the horn-wall at the toe to relieve pressure from the shoe, and raise toe-clips on either side of this section to fix the margins of the cleft. Apply clamps and springs as above. Thin down the thick abrupt margins of the cleft with a rasp.

**Rachitis.** Nourishing food rich in lime (grain, clover, alfalfa, peas, beans, bonemeal, pasture). Outdoor life in summer, airy light dry stable in winter. Add lime water to the milk. Calcii carbonas, phosphorus (efficiency in doubt), acidum hydrochloricum dilutum, acidum phosphoricum dilutum.

**Ranula** cf cyst.

**Rheumatism. Acute.** Local treatment: massage the parts with liniments (alcohol, camphor, chloroform, turpentine, methyl salicylate), apply hot packs, or alcohol bandage. Internally: salicylates with laxatives and diaphoretics, acidum acetyl-salicylicum ℞ 1.

| ℞ 1 | ℞ 2 |
|---|---|
| Acetphenetidini<br>Phenylis salicylatis aa gr. xlv<br>Caffeinae gr. xxx.<br>M. Ft. pulv. No. viii.<br>Sig. One every four hours for a dog (V.K.). | Sodii salicylatis<br>Althaeae aa ʒ iii.<br>M. Ft. pulv. No. iv.<br>Sig. One powder in a drench every three hours for a cow, or in the form of an electuary for a horse (V.K.). |

**Ringworm** (Tricophyton Tonsurans). Soften the scabs: soft soap and lard equal parts, creolin and cottonseed oil 1:20. Apply parasiticides with a stiff brush: formalin, hydrargyrum ammoniatum, acid salicylic, pix liquida ℞ 1, *sulphur iodid in oil* 1:8-10. Alcoholic or petrox solutions of iodin or salicylic acid. Crude nitric acid 1, petrolatum 5 (cattle). 1-2% alcoholic sublimate solutions.

**Salivation.** Belladonna; withhold irritating plants (clover), or spoiled food. Treat the primary disease: pharyngitis, paralysis of the pharynx.

**Scabies** cf mange.

**Scratches. Eczematous.** Cleanse the skin, avoiding water as far as practical, and dry the skin with a towel, alcohol, or gasolene. In acute swelling apply an antiseptic bandage (creolin, sublimate); when the acute symptoms and swelling recede apply dry dressings under a bandage (amylum, talcum, tannoform, tannin). *Antiseptic powders, pastes, and solutions:* acid carbolic crud. ℞, acid boric, alumen, bismuth, charcoal, creolin, creosote, calomel, galla, glycerin ℞ 1 and 2, formalin, hydrargyri iodidum rubrum (1:25-100 ointment), hydrargyrum ammoniatum and oxidum, liquor alumini acetatis, menthol, compound tincture of benzoin, petrox, phenol, tar, lead, pyoktanin, resorcin, sulphur, sulphur iodid, zinc carbonate, zinc oxid, and zinc oil. **Verrucose Scratches** (Grease Heel). Apply a formalin bandage 1:100-400 followed by daily curettage each time the bandage is removed, until the thickening is reduced, then follow with dusting-powders, cf pulvis. Pulverized potassium permanganate under a bandage, change every second day, after-treatment as above. Operative removal of the wart-like growths with a sharp scalpel (paring), follow with cauterization (cherry-red iron) and dry bandage (tannin).

**Shoe-boil** cf contusion.

**Shoulder Lameness** as hip lameness.

**Shoulder Tumors** cf contusion.

**Spasm of the Diaphragm** (Thumps). Rest, narcotics (chloral, morphin), camphor. When due to

poisoning (aloes) use active stimulants (ammonia, camphorated oil per subcutis).

**Spavin.** Point firing to the bone with small very hot points (thermo-cautery) followed with blisters and a rest of 1-3 months, mild cases sometimes recover without rest. Counter-irritation: hydrargyri chloridum corrosivum ℞ 1-2, hydrargyri iodidum rubrum ℞ 1. Tibio-peroneal neurectomy in incurable cases.

**Splint.** Recent: rubefacients (tincture of iodin, linimentum, hydrargyri iodidum rubrum ℞ 1) with massage and bandage. Pressure bandage over a piece of lead or hard rubber moulded to the part. Massage daily with a piece of bone or hard wood. Resorbents: iodin-glycerin, or iodin-petrox 1:4 applied daily with a brush; hydrargyri chloridum corrosivum ℞ 1-2 alcoholic sublimate 1:3, cantharides ℞ 5, hydrargyri iodidum rubrum ℞ 1.

**Sprains.** Rest and heat (hot compress, cataplasma kaolini), alcohol bandage. Subacute: massage with stimulating liniments (ammonia, sinapis, turpentine) and bandage. Chronic: fixation bandage over a blister (cantharides, unguentum hydrargyri iodidi 1:4-5), firing when it terminates in chronic arthritis.

**Strangles.** Provide a well-ventilated stall free from dust, drafts, and stable gases (ammonia). Laxative diet: fine hay, carrots, mashes. Inhalants: creolin, turpentine, eucalyptol, menthol ℞ 1. Keep the nostrils and manger clean and disinfected (creolin), destroy all exudates dropped on the manger and walls. Local treatment: hot compress on the throat (creolin, cataplasma kaolini), follow with liniments and mild blisters when the swelling persists. Early

incision of subparotid abscesses, see pharyngitis. Expectorants: antimonii et potassii tartras in early stages, ammonium chlorid and juniper later. See bronchitis, ℞ 3, pg. 9.

**Stomach-worm Disease** (Strongylus Contortus). Remove all animals from the infested pastures, intense feeding, water in troughs instead of from the ground, disinfect the pens. Creosote, *copper sulphate*, gasolene, acidum picricum, potassium picrate.

**Stomatitis.** Remove foreign bodies (awns) from the mucous membranes with a curet. Apply astringent antiseptics: potassii chloras 4%, alum 3-5%, touch ulcers with argenti nitras 10% on a pledget of cotton.

**Strongylus** cf lung-worm disease and stomach-worm disease.

**Summer Sores.** Protect against flies by applying a paste of formalin, acacia, and starch.

**Sunstroke.** Place the animal in a shady cool place. Pour cold water on the head and body (hose), give clysters of cold water, place packs of ice to the head. Excitants: camphorated oil, caffein, aromatic spirits of ammonia, strophanthus. With symptoms of pulmonary congestion give spiritus glycerylis nitratis ℞ 2.

**Taeniasis.** See worms.

**Tendinitis and Tendovaginitis. Acute:** cold for the first 24 hours (baths, ice packs, cold irrigation); follow with hot Priessnitz compress, alcohol or camphor bandage, cataplasma kaolini. In severe sprains with heat and tenderness hot packs are indicated from the first. **Subacute:** massage with rubefacients (linimentum, unguentum hydrargyri, tincture of iodin,

petrox iodin) and cover with a bandage. **Chronic:** mild blisters under a tar bandage, fixation bandage, blisters, line firing, shoe with high heel calks. **Serous** (Thoroughpin; Wind-puffs): in the early stages treat as acute tendinitis or tendovaginitis. Serous distensions—shave and disinfect, aspirate the fluid, inject tincture of iodin 1 to distilled water 3 through the aspiration trocar, massage for one to two minutes and allow the excess to flow out through the trocar, follow with a hot antiseptic compress (creolin). This is followed with an acute swelling that gradually recedes and leaves permanent improvement.

**Tendovaginitis** cf tendinitis.

**Tenesmus.** Chloral, morphin, clysters of demulcents containing cocain in irritation of the rectum.

**Tetanus.** Prophylaxis: tetanus antitoxin ʒ 1. Treatment: keep the wound moist with a 3% phenol pack, inject 10 cc. of a 2% phenol solution per subcutis twice daily, give clysters of ½% phenol. Keep the animal quiet and alone, and give a light laxative diet.

**Thoroughpin** cf tendinitis.

**Thrush.** Cleanse the frog, remove the diseased and macerated horn, spread the heels (spring, shoe). Disinfect: formalin 10-50%, tar or creosote in alcohol 5-10%, creolin or sublimate pack, tincture of aloes, cupri sulphas, cælomel, cf pulvis.

**Tympany. Acute tympany in ruminants.** Keep the mouth open with a rope or stick smeared with tar, or the mouth speculum. Massage the rumen from below upward with the closed fists against the left flank. Drive in cold water, pour cold water over the body. Carminatives: aromatic spirits of ammonia,

capsicum, zingiber. Dilute hydrochloric acid, creolin, therapogen. Pass a stomach-tube, or a piece of hose to relieve the gas, trocarize in the left flank, incision of the rumen where the gas is infiltrated through a mass of fermenting food so that the tympany is not relieved through a trocar or stomach-tube. **Chronic tympany:** as chronic indigestion. **Acute tympany in the horse,** see acute indigestion.

**Urachus** cf navel.

**Urine, Retention of.** Pass a catheter to locate possible mechanical obstructions. In spasm of the bladder supply fresh bedding, apply rubefacients to the abdomen (alcohol and turpentine equal parts, spirits of mustard), give warm clysters of chloral hydrate, give morphin per subcutis, catheterize. In paralysis of the bladder give strychnin, apply electricity and rubefacients (linimentum) over the lumbar region, remove the urine through a catheter.

**Urticaria.** Laxatives (Carlsbad salts) and bitters. Weak solutions of ammonia locally.

**Vaginitis. Contagious.** Frequent disinfection of the stable (gutters, floors, walls) with white-wash, powdered lime, creolin, liquor cresolis compositus. Cleanse and disinfect the external genitals and parts (tail, legs). Vaginal irrigation daily to twice or three times a week with mild antiseptics (therapogen, potassium permanganate). Prevent infection from the bull by clipping the preputial hairs, and disinfecting the prepuce and abdomen as in contagious abortion.

**Vertigo** (Dizziness) cf epilepsy.

**Warts.** Operative removal: excision, scissors, ligature. Acid salicylic gr. 30 to acid acetic ʒ 1;

phenol; acid nitric; formalin; castor oil applied daily; saturated solution of salicylic acid in alcohol; touch with acetic acid, or glacial acetic acid. Give arsenic in large doses for multiple warts, up to 5 drams daily for a cow.

**White Scours.** Prophylaxis as in navel-ill. Treatment: as gastro-enteritis; polyvalent serum.

**Wind-puffs** cf arthritis and tendinitis.

**Wood-eating** cf licking-disease.

**Wool-eating.** Sheep: give more freedom and exercise; feed clover or alfalfa; divide into small groups; internal treatment as in licking-disease (dilute hydrochloric acid, apomorphin).

**Worms. Ascaris** (Stomach-worms). *Horse:* antimonii et potassii tartras ℞ 1, aloes ʒ 1, Fowler's solution, oleum terebinthinae ʒ 2-3 in a pint of linseed oil, areca-nut or iron sulphate for foals. *Calves:* a dram of antimonii et potassii tartras dissolved in eight ounces of water, give a tablespoonful every 3-4 hours. *Swine:* areca-nut, oil of turpentine, follow with castor oil. Oil of chenopodium 3 i per 100 lbs. weight, in 1-2 ʒ ol. ricini; starve for 24 hours before administration. *Dog:* as in tape-worms, santonin ℞ 1.

**Oxyurus** (Pin Worms; Rectal Worms). Repeated clysters of acetum 1%; quassia; clysters of creolin ½%; aloes ʒ 1; arseni trioxidum ℞ 4; see ascaris and tape-worms.

**Strongylus.** See stomach-worm disease, and lung-worm disease.

**Strongylidae** (*S. vulgaris, cylicostomum*). Ol. chenopodium 15-18 cc. in a quart of oil to horses that have fasted for 36 hours.

**Tape-worms.** Precede the treatment with mild laxatives and restricted diet. *Horse and Cow:* aloes ʒ 1; tartar emetic 3 4; oil of turpentine ʒ 3 in a quart of linseed oil. *Sheep:* oil of turpentine 3 2-4 in linseed oil 3 4-6; kamala ʒ 1-1½; areca-nut; aspidium. *Dog:* aspidium; arecolin gr. ¼-¾ per os; kamala; areca-nut; ℞ 5 and 6, pg. 9. When the vermifuge is not retained in dogs and cats it may be necessary to anesthetize the stomach: cocain gr. 1½; adrenalin 1:1000, 15 cc.; aqua amygdalae amarae 10 cc.; administered through a stomach-tube for a dog. And give the vermifuge in milk or castor oil through a stomach-tube.

**Wounds. Bulbs of the Heel, and Calk Wounds.** *Recent:* cleanse the wound thoroughly with warm antiseptic solutions or peroxid, shave the hair from around the margins, thin the horn over the injured tissue, and apply a hot moist antiseptic compress (creolin, sublimate). With less secretions cover with an antiseptic powder (tannin, boric acid, pulvis) under a bandage. Keep in a clean dry stall. In abrasions apply an antiseptic ointment: zinc, lead, amylum. *Old:* drain thoroughly, remove all undermined horn, remove excessive granulations with a curet or knife, cauterize (argenti nitras, thermo-cautery, cherry-red iron), and cover with a dry antiseptic powder under a bandage. **Eye-lids:** cleanse with a warm solution of bicarbonate of soda, clip the hair, shave and disinfect (warm creolin or therapogen), fix the margins with an interrupted suture, cover with a fixative paste (flexile collodion. airol paste, antiphlogistin) or antiseptic compress under a bandage. Preserve all flaps. Back the animal into the stall and cross-tie to prevent rubbing. In abra-

sions of the eyelids apply an ointment of zinc oxid. **Joint:** absolute rest (slings). Clip the hair, shave and disinfect around the puncture. *Occlusire dressing:* sublimate pack; iodoform-collodion (cautery wounds); cauterize with a thermo-cautery, or blister, around small recent perforations; in recent small punctures from which there flows much synovial discharge dust freely and often with desiccant antiseptics (powdered gum arabic mixed with tannin, calomel, pulvis antisepticus) to promote the formation of a gelatinous plug. Permanent antiseptic irrigation. *Pododerm: Nailing:* remove the nail that caused the prick, relieve shoe-pressure from the injured part of the hoof, hot foot-bath in an antiseptic solution; when suppuration follows treat as pododermatitis. *Street-nails:* after the removal of the nail thin the horn around the puncture, apply an antiseptic pack (sublimate, formalin). After-treatment as in pododermatitis.

## 6. Symptoms and Treatment of Poisoning.

**Aconite.** *Symptoms:* salivation, excitement, itching, vomiting, diarrhea, colic, tympany, convulsions, trembling, dilated pupils, weakness and collapse. *Treatment*: Antidote: tannin. Excitants: camphorated oil per subcutis, ether, alcohol, ammonia, digitalis, strychnin.

**Acids** (Hydrochloric; Sulphuric). *Symptoms:* cauterization of the mucous membranes of the mouth and pharynx; moist gangrene with the formation of a dry scab; salivation, difficult swallowing. Symptoms of gastro-enteritis: colic, diarrhea, marked depression, weakness and collapse. *Treatment:* At first give alkalies: soap and water, lime water, solution of bicarbonate of soda, magnesia. Follow with demulcents (℞ 11, pg. 10) and narcotics to control the pain (morphin per subcutis, cannabis Indica per vein).

**Antimonii et Potassii Tartras** (Tartar Emetic). Minimum fatal dose for the horse and cow is one-half to one ounce. *Symptoms:* salivation, emesis (dog, cat, swine). Gastro-enteritis: pain, tenesmus (straining), diarrhea, tympany in cattle and sheep. Frequent irregular pulse, convulsions and dyspnea. *Treatment:* Antidote: tannin. Demulcents: ℞ 11, pg. 10, milk, white of egg. Control the pain with morphin or cannabis Indica. Excitants in weakness and collapse: camphorated oil per subcutis, alcohol, aromatic spirits of ammonia, atropin, ether.

**Alkalies** (Ammonia; Caustic Potash). *Symptoms:* swelling and cauterization of the lips, mucous membranes of the mouth, pharynx and esophagus;

moist gangrene with the formation of a moist scab; salivation, difficult swallowing, vomiting. Symptoms of gastro-enteritis: colic, tympany. *Treatment:* at first give weak acids (vinegar, acetic acid); follow with demulcents (℞ 11, pg. 10, oatmeal water); treat the weakness and collapse with excitants (strophanthin, strychnin, caffein).

**Aloes.** *Symptoms:* weakness, rapid weak pulse, spasm of the diaphragm, diarrhea (not always present), red conjunctival mucous membranes, nervous twitching of the peripheral muscles, sighing, cold sweat, rapid breathing, marked depression, and collapse. *Treatment:* Demulcents (℞ 11, pg. 10, oatmeal water) and styptics (tannin). Treat the collapse with camphorated oil per subcutis, strychnin, caffein, strophanthin, see collapse.

**Arecolin.** *Treatment:* atropin.

**Arsenic** (White Arsenic; Arseni Trioxidum). Minimum fatal dose per mouth for the cow ʒ ½-1, for the horse 3 2½-4; through wounds horse and cow, grains 30. Most frequent source of poisoning is in rat poison and Paris green. *Symptoms:* thirst, emesis (dog and cat); constipation followed by a fetid diarrhea, pulse small, frequent and irregular, colic, cyanosis of the conjunctival mucous membranes, dyspnea, depression, weakness, trembling, paralysis, and collapse. *Treatment:* Antidote: *magnesia* (magnesium oxid), dog gr. 7½-15; H. & C. 3 4-5 in 20 parts water, repeat every 15 minutes to half-hour. "Arsenic Antidote"—solution of iron sulphate and magnesium oxid (ferri hydroxidum; ferri hydroxidum cum magnesii oxido). Powdered iron, iron filings, water from a blacksmith's tub in which hot irons have been cooled. Symptomatic: demulcents (℞ 11,

pg. 10, white of egg, milk, oatmeal water). Excitants in paralysis and weakness: strophanthin per subcutis, ether, alcohol, caffein, atropin, strychnin, digalen. Avoid alkalies and control the pain with narcotics (cannabis Indica per vein, chloral in demulcents for cows, morphin per subcutis).

**Atropin.** *Symptoms:* excitement, rapid pulse and respiration, followed by depression, small irregular pulse, and dilated pupils. *Treatment:* Narcotics: morphin, chloral, cannabis Indica. Arecolin. Tannin as an antidote. Camphorated oil per subcutis in weakness and collapse, see collapse.

**Barium Chlorid.** *Symptoms:* Diarrhea, colic, heart weakness, muscular paralysis, collapse, sudden death from paralysis of the heart. *Treatment:* Antidote: sodii sulphas (Glauber's salt) per vein, atropin; narcotics (morphin, opium, chloral, chloroform).

**Cantharides.** *Symptoms:* salivation, difficult swallowing, vomiting, colic, diarrhea, tenesmus, frequent thready pulse, polyuria, sexual excitement, unsteady gait, nephritis, and cystitis. *Treatment:* emetics in small animals and swine (apomorphin, veratrin), purgatives, demulcents (℞ 11, pg. 10, oatmeal water). Camphor and morphin in small doses. Avoid oil.

**Chloral Hydrate and Chloroform.** Atropin, hyoscin, pour cold water on the head and back, strychnin, inhalation of ammonia, artificial respiration in small animals.

**Digitalis.** Minimum fatal dose for the horse is 6 ʒ (25.), for the dog 1 ʒ (5.), given singly or over a period of 3 days (Fröhner). An ounce daily per os to a cow for four days had no apparent effect (Salvis-

berg). Horses are often poisoned by overdosage with the fluid extract. *Symptoms:* pulse becomes rapid, small, weak, and irregular, the heart impulse increased and pounding. At first excitement (congestion of the brain) followed by depression, weakness, and paralysis (diminished blood pressure). Gastro-enteritis: salivation, retching, emesis, colic, diarrhea. *Treatment.* Symptomatic with excitants: camphor, coffee, atropin, caffein, strychnin. Antidote (tannin).

**Ether.** Artificial respiration, atropin, caffein, strychnin, massage.

**Lead.** *Symptoms.* Colic, tympanitis, salivation (especially in cattle), constipation. Pulse is small, hard, either rapid or slow. Trembling, twitching, paralysis, epileptic attacks (convulsions). Mucous membranes at first red, then a dirty-grey (dark line around the teeth in chronic poisoning). Dyspnea. *Treatment.* Antidote: sodii sulphas, dilute sulphuric acid. Emetics in small animals and pigs. Demulcents: linseed water, milk, white of egg. Control pain with narcotics: chloral, morphin. Excitants for depression: camphor, ether, atropin, strychnin. Iodid of potash in chronic form.

**Mercury.** Corrosive sublimate; mercurial ointment ʒ 1; and calomel 3 2-3 in cattle (very susceptible). *Symptoms.* Skin eruptions (mercurial eczema in cattle), blue ring around the gums, cough, thick nasal discharge, salivation, colic, fetid diarrhea, paralysis, convulsions, nephritis, emesis (dogs). Gastro-enteritis predominates when administered through the mouth (acute fatal course). *Treatment.* Emetics in small animals (apomorphin, veratrin). Antidote: sulphur, sulphate of iron, ferrum reductum. Demulcents: linseed water, white of egg, milk. Ex-

citants in weakness: atropin, ammonia, camphor, caffein. Potassium chlorate in stomatitis. Potassium iodid in chronic mercurialism.

**Phosphorus.** Rat and mice poison. *Symptoms.* Restlessness, emesis (dog, cat, ruminant), colic, dyspnea, weakness, trembling. *Treatment.* Magnesia in water, copper sulphate solution. Demulcents: linseed water and egg; avoid oils and milk.

**Phenol** (Carbolic Acid). Dyspnea, colic, diarrhea, collapse. *Treatment.* Antidote: alcohol, sulphuric acid, sodii sulphas, chalk. Demulcents: linseed water. Excitants in weakness and collapse: camphor, ammonia, strychnia, atropin.

**Pilocarpin.** Salivation, pulmonary edema. *Treatment.* Atropin.

**Physostigmin** (Eserin). Sweating, dyspnea, diarrhea, colic, tenesmus. *Treatment.* Atropin.

**Strychnin.** Convulsions. *Treatment.* Morphin, chloral, chloroform inhalations, tannin.

**Tobacco.** External use of full strength decoctions and infusions. *Symptoms.* Salivation, retching, colic, tympanitis, diarrhea, polyuria, trembling and weakness, paralysis, collapse, spasm of diaphragm. Pulse at first slow, then rapid and irregular. Dyspnea. Resorption through the skin may cause convulsions and collapse only. *Treatment.* Antidote: tannin in poisoning per os; potassium iodid. Excitants in paralysis: atropin, ammonia, strychnin, strophanthin. Narcotics in convulsions.

## 7. Administration of Medicine.

### 1. Per os.

The promptness and intensity, as well as the duration of the action of drugs, depend on the method and time of administration. Most drugs are given through the mouth (per os) when they are absorbed through the alimentary mucous membrane. The action of drugs given per os is relatively slow and is most useful when we desire a prolonged effect, or when the alimentary tract itself is the object of treatment (intestinal catarrh, diarrhea). In certain conditions drugs given per os may remain inactive (aloes pill in impaction of the stomach or paralysis of the bowel), or become inert (digitalis in the stomach of cattle). When rapid absorption or prompt effect is desired, oral medication is best applied when the stomach is comparatively empty—febrifuge, purgative, vermifuge. In general the degree of fullness of the digestive tract is of slight importance in oral medication. This is the oldest method of giving medicine, when properly conducted it is the safest (less shock, longer effect), and with most drugs it is least expensive and most convenient. Medicine may be given per os in an electuary (pulverized licorice and water, honey, syrup, molasses), bolus, capsule, drench, or in the feed or drinking water. Cats and dogs are often dosed through a stomach-tube to prevent vomiting, and the same method is useful for horses (paralysis of the pharynx) in the administration of both medicine and food.

The relative size of the dose according to the method of administration, species, and age is as follows:

Mouth = 1
Rectum = 1-2
Subcutaneous = 1/10-1/2
Intratracheal = 1/20
Intravenous = 1/50-1/25

| | | | |
|---|---|---|---|
| Horse | = 1 | 6-year-old horse | = 1 |
| Cow | = 1 1/2 | 3-year-old horse | = 1/2 |
| Sheep | = 1/5 | Yearling colt | = 1/4 |
| Swine | = 1/5 | 6-months colt | = 1/8 |
| Dog | = 1/10 (large dog) | 3-months colt | = 1/16 |
| Cat | = 1/20 | 1-month colt | = 1/24 |
| Fowl | = 1/25-1/50 | | |

### 2. Administration per subcutis.

Drugs given subcutaneously are rapidly absorbed, their action is prompt and intense but relatively short, and they are eliminated more quickly than when given per os. This method is of special value in acute conditions that demand prompt relief (collapse, colic, acute heart weakness, marked depression, paralysis of the respiratory or circulatory centers, acute laminitis, intense pain). The following are some of the preparations adapted to this method of administration: all soluble alkaloids (strychnin, arecolin), antipyrin, tuberculin, mallein, extract of ergot (Squibb), camphorated oil, ether, alcohol, physiological salt solution (0.6%), phenol (2%), caffein and sodium salicylate, serums and vaccines, strophanthin.

### 3. Rectal Administration.

Rectal administration (clyster, enema) is useful for the local application of drugs to the diseased mucous membrane, styptics (silver nitrate) and demulcents (linseed tea) in diarrhea; the softening of impacted contents (linseed oil, slow injection of warm water); stimulating peristalsis (clysters of cold water, soapy water, or glycerin); relieving thirst, and giving nourishment (liquids only). It is also useful for giving medicines like chloral, when the animal is unable to swallow in disease of the esophagus or pharynx. Most drugs are absorbed more slowly from the rectum than from the stomach.

### 4. Intravenous Injection.

Medication per vein has a limited but useful field. Adrenalin solutions are more active when placed in the vein, F. Ext. of cannabis Indica injected into the vein is a very useful narcotic, the soluble silver preparations (protargol) are usually given intravenously.

### 5. Intratracheal Injection.

Medication per trachea has not come into general use. It is most useful in the destruction of lungworms, see worms.

## 8. Tables.

### a) Period of Estrum.

| | Occurs after parturition in | Intervals between estrum when conception does not occur. | Duration of estrum |
|---|---|---|---|
| Mare | 7- 9 days | 3- 4 weeks | 8 days |
| Cow | 18-21 days | 18-21 days | 2- 3 days |
| Sheep | 7 months | 3 weeks | 2- 3 days |
| Swine | 4- 8 weeks | 2 weeks | 2- 4 days |
| Dog | 12-14 weeks | 12-14 weeks | 10-14 days |

### b) Duration of Pregnancy.

| | Minimum | Maximum | Average |
|---|---|---|---|
| Mare | 310 | 380 | 340 (48-49 weeks) |
| Ass | | | 365 (52 weeks) |
| Cow | 240 | 320 | 280 (40 weeks) |
| Sheep | 145 | 155 | 150 (21.5 weeks) |
| Sow | | | 120 (17 weeks) |
| Bitch | | | 63 ( 9 weeks) |
| Cat | | | 56 ( 8 weeks) |

### c) Period of Suckling.

Foals 12-16 weeks, lambs 8-16 weeks, calves 6-12 weeks, pigs 4-8 weeks. Pigs and calves may be taught to drink from birth.

### d) Brooding Period.

Hen 21 days, turkey 26-29 days, goose 28-33 days, duck 28-32 days, doves 17-19 days, canaries 2 weeks.

## e) Parturition Table.[1]

| Conception | Date of Birth | | | | | |
|---|---|---|---|---|---|---|
| Date | Mare 340 days | Cow 284 days | Sheep 152 days | Swine 120 days | Bitch 63 days | Cat 56 days |
| 1. Jan. | 6. Dec. | 11. Oct. | 1. June | 30. Apr. | 4. Mar. | 25. Feb. |
| 6. " | 11. " | 16. " | 6. " | 5. May | 9. " | 2. Mar. |
| 11. " | 16. " | 21. " | 11. " | 10. " | 14. " | 7. " |
| 16. " | 21. " | 26. " | 16. " | 15. " | 19. " | 12. " |
| 21. " | 26. " | 31. " | 21. " | 20. " | 24. " | 17. " |
| 26. " | 31. " | 5. Nov. | 26. " | 25. " | 29. " | 22. " |
| 31. " | 5. Jan. | 10. " | 1. July | 30. " | 3. Apr. | 27. " |
| 5. Feb. | 10. " | 15. " | 6. " | 4. June | 8. " | 1. Apr. |
| 10. " | 15. " | 20. " | 11. " | 9. " | 13. " | 6. " |
| 15. " | 20. " | 25. " | 16. " | 14. " | 18. " | 11. " |
| 20. " | 25. " | 30. " | 21. " | 19. " | 23. " | 16. " |
| 25. " | 30. " | 5. Dec. | 26. " | 24. " | 28. " | 21. " |
| 2. Mar. | 4. Feb. | 10. " | 31. " | 29. " | 3. May | 26. " |
| 7. " | 9. " | 15. " | 5. Aug. | 4. July | 8. " | 1. May |
| 12. " | 14. " | 20. " | 10. " | 9. " | 13. " | 6. " |
| 17. " | 19. " | 25. " | 15. " | 14. " | 18. " | 11. " |
| 22. " | 24. " | 30. " | 20. " | 19. " | 23. " | 16. " |
| 27. " | 1. Mar. | 4. Jan. | 25. " | 24. " | 28. " | 21. " |
| 1. Apr. | 6. " | 9. " | 30. " | 29. " | 2. June | 26. " |
| 6. " | 11. " | 14. " | 4. Sept | 3. Aug. | 7. " | 31. " |
| 11. " | 16. " | 19. " | 9. " | 8. " | 12. " | 5. June |
| 16. " | 21. " | 24. " | 14. " | 13. " | 17. " | 10. " |
| 21. " | 26. " | 29. " | 19. " | 18. " | 22. " | 15. " |
| 26. " | 31. " | 3. Feb. | 24. " | 23. " | 27. " | 20. " |

[1] Rautenberg Veterinär Kalender.

| Con-ception | Date of Birth | | | | | |
|---|---|---|---|---|---|---|
| Date | Mare 340 days | Cow 284 days | Sheep 152 days | Swine 120 days | Bitch 63 days | Cat 56 days |
| 1. May | 5. Apr. | 8. Feb. | 29. Sept. | 28. Aug. | 2. July | 25. June |
| 6. " | 10. " | 13. " | 4. Oct. | 2. Sept. | 7. " | 30. " |
| 11. " | 15. " | 18. " | 9. " | 7. " | 12. " | 5. July |
| 16. " | 20. " | 23. " | 14. " | 12. " | 17. " | 10. " |
| 21. " | 25. " | 28. " | 19. " | 17. " | 22. " | 15. " |
| | 30. " | 5. Mar. | 24. " | 22. " | 27. " | 20. " |
| 31. " | 5. May | 10. " | 29. " | 27. " | 1. Aug. | 25. " |
| 5. June | 10. " | 15. " | 3. Nov. | 2. Oct. | 6. " | 30. " |
| 10. " | 15. " | 20. " | 8. " | 7. " | 11. " | 4. Aug. |
| 15. " | 20. " | 25. " | 13. " | 12. " | 16. " | 9. " |
| 20. " | 25. " | 30. " | 18. " | 17. " | 21. " | 14. " |
| 25. " | 30. " | 4. Apr. | 23. " | 22. " | 26. " | 19. " |
| 30. " | 4. June | 9. " | 28. " | 27. " | 31. " | 24. " |
| 5. July | 9. " | 14. " | 3. Dec. | 1. Nov. | 5. Sept. | 29. " |
| 10. " | 14. " | 19. " | 8. " | 6. " | 10. " | 3. Sept. |
| 15. " | 19. " | 24. " | 13. " | 11. " | 15. " | 8. " |
| 20. " | 24. " | 29. " | 18. " | 16. " | 20. " | 13. " |
| 25. " | 29. " | 4. May | 23. " | 21. " | 25. " | 18. " |
| 30. " | 4. July | 9. " | 28. " | 26. " | 30. " | 23. " |
| 4. Aug. | 9. " | 14. " | 2. Jan. | 1. Dec. | 5. Oct. | 28. " |
| 9. " | 14. " | 19. " | 7. " | 6. " | 10. " | 3. Oct. |
| 14. " | 19. " | 24. " | 12. " | 11. " | 15. " | 8. " |
| 19. " | 24. " | 29. " | 17. " | 16. " | 20. " | 13. " |
| 24. " | 29. " | 3. June | 22. " | 21. " | 25. " | 18. " |
| 29. " | 3. Aug. | 8. " | 27. " | 26. " | 30. " | 23. " |

| Con-ception | Date of Birth | | | | | |
|---|---|---|---|---|---|---|
| Date | Mare 340 days | Cow 284 days | Sheep 152 days | Swine 120 days | Bitch 63 days | Cat 56 days |
| 3. Sept. | 8. Aug. | 13. June | 1. Feb. | 31. Dec. | 4. Nov. | 28. Oct. |
| 8. " | 13. " | 18. " | 6. " | 5. Jan. | 9. " | 2. Nov. |
| 13. " | 18. " | 23. " | 11. " | 10. " | 14. " | 7. " |
| 18. " | 23. " | 28. " | 16. " | 15. " | 19. " | 12. " |
| 23. " | 28. " | 3. July | 21. " | 20. " | 24. " | 17. " |
| 28. " | 2. Sept. | 8. " | 26. " | 25. " | 29. " | 22. " |
| 3. Oct. | 7. " | 13. " | 3. Mar. | 30. " | 4. Dec. | 27. " |
| 8. " | 12. " | 18. " | 7. " | 4. Feb. | 9. " | 2. Dec. |
| 13. " | 17. " | 23. " | 13. " | 9. " | 14. " | 7. " |
| 18. " | 22. " | 28. " | 18. " | 14. " | 19. " | 12. " |
| 23. " | 27. " | 2. Aug. | 23. " | 19. " | 24. " | 17. " |
| 28. " | 2. Oct. | 7. " | 28. " | 24. " | 29. " | 22. " |
| 2. Nov. | 7. " | 12. " | 2. Apr. | 1. Mar. | 3. Jan. | 27. " |
| 7. " | 12. " | 17. " | 7. " | 6. " | 8. " | 1. Jan. |
| 12. " | 17. " | 22. " | 12. " | 11. " | 13. " | 6. " |
| 17. " | 22. " | 27. " | 17. " | 16. " | 18. " | 11. " |
| 22. " | 27. " | 1. Sept. | 22. " | 21. " | 23. " | 16. " |
| 27. " | 1. Nov. | 6. " | 27. " | 26. " | 28. " | 21. " |
| 2. Dec. | 6. " | 11. " | 2. May | 31. " | 2. Feb. | 26. " |
| 7. " | 11. " | 16. " | 7. " | 5. Apr. | 7. " | 31. " |
| 12. " | 16. " | 21. " | 12. " | 10. " | 12. " | 5. Feb. |
| 17. " | 21. " | 26. " | 17. " | 15. " | 17. " | 10. " |
| 22. " | 26. " | 1. Oct. | 22. " | 20. " | 22. " | 15. " |
| 27. " | 1. Dec. | 6. " | 27. " | 25. " | 27. " | 20. " |
| 31. " | 5. " | 10. " | 1. June | 29. " | 3. Mar. | 24. " |

### f) Determination of the Age of Domestic Animals.

The age of animals is best determined by an examination of the teeth. The eruption, wear, and shape of the teeth, especially the incisors, is of special value. For convenience the following abbreviations are used: $I^1$ $I^2$ $I^3$ = central (nippers), intermediate, and corner incisors in the horse; $I^1$ $I^2$ $I^3$ $I^4$ = central, first intermediate, second intermediate, and corner incisors in ruminants; C = canine; $G^1$ $G^2$ $G^3$ $G^4$ $G^5$ $G^6$ = grinders, or premolars and molars from before backward, or cheek teeth.

#### Horse.

*Eruption of the teeth:*

At birth : Temporary $I^1$, Temporary $G^1$ $G^2$ $G^3$.
4-6 weeks : Temporary $I^1$ $I^2$, Temporary $G^1$ $G^2$ $G^3$.
6-9 months : Temporary $I^1$ $I^2$ $I^3$, Temporary $G^1$ $G^2$ $G^3$.
10-12 months : Temporary $I^1$ $I^2$ $I^3$, Temporary $G^1$ $G^2$ $G^3$ Eruption of $G^4$.
2 years : Eruption of $G^5$.
2½-3 years : Change of $I^1$ $G^1$ $G^2$.
3½-4 years : Change of $I^2$ $G^2$.
4½-5 years : Change of $I^3$ $G^3$ and eruption of C.
4-5 years : Eruption of $G^6$ and eruption of C.

*Wear of the teeth:*

The table-surface is leveled (the cup disappears, or becomes much smaller) at
6 years on the inferior $I^1$.
7 years on the inferior $I^2$; a notch often forms on the upper $I^2$.
8 years on the inferior $I^3$; the dental star appears in $I^1$.
At 9 years the notches on the superior $I^3$ often disappear.

At 11 years the dental stars are in the middle of the tables, the inferior corners are as large at the gums as at their free extremities, and notches reappear in the upper corner teeth. Up to 12 years the table-surfaces of the teeth are elliptical (narrower from before backward); from 12-18 they gradually become round; from 18 and above they become triangular to biangular (wider from before backward).

The average length of the free portion of the incisor teeth is 16 mm.; for each 2 mm. in excess of this length add one year; for each 2 mm. less than this length deduct one year from the estimate.

**Rib test:** the distance between the last two ribs begins to increase at 12 years, at 15 there is a well-marked spread. This spreading extends forward so that the space between the 17th and 16th is well-marked at 18 years. To estimate the age, add three years to twelve for each space. This is a useful but not infallible adjunct to our observation of the teeth.

## Ox.

*Eruption of the teeth:*

Birth to 3 weeks : Temporary $I^1$ $I^2$ $I^3$ $I^4$, Temporary $G^2$.
5-6 months : Permanent $G^4$.
1½ years : Change of $I^1$, Permanent $G^5$.
2 years : Maturity of $I^1$, Permanent $G^1$ $G^6$.
2½ years : Change of $I^2$, Permanent $G^3$.
3 years : Maturity of $I^2$, Permanent $G^3$.
3½ years : Change of $I^3$.
4 years : Maturity of $I^3$.
4½ years : Change of $I^4$.
5 years : Maturity of $I^4$, all teeth in wear.

6 years : Neck at the gums on $I^1$.
7 years : Neck at the gums on $I^2$.
8 years : Neck at the gums on $I^3$.
9 years: Neck at the gums on $I^4$.
15 years : Incisors very small or lost.

**Horn test:** count the rings around the base of the horn, and add two to the number of rings to estimate the age in years of cows. The method is based on the formation of a ring for each period of pregnancy, estimating the first pregnancy at the end of the second year, and a pregnancy each year thereafter.

### Sheep.

*Eruption of the teeth:*
4 weeks : Temporary $I^1$ $I^2$ $I^3$ $I^4$, Temporary $G^1$ $G^2$ $G^3$.
3-5 months : Eruption of $G^4$.
9-12 months : Eruption of $G^5$.
12-18 months : Change of $I^1$.
1½-2 years : Change of $I^2$, $G^1$ $G^2$ $G^3$, Eruption of $G^6$.
2¼-2¾ years : Change of $I^3$.
3-3¾ years : Change of $I^4$.
6 years : Notch forms between the nippers.
10-12 years : Incisors are lost.

### Swine.

*Eruption of the teeth:*
4 weeks : Temporary $I^1$ $I^2$, Temporary C, Temporary $G^3$ $G^4$.
3 months : Temporary $I^1$ $I^2$ $I^3$.
9 months : Change of C and $I^3$.
12-15 months : Change of $I^1$.
16-18 months : Change of $I^2$.

**Dog.**

*Eruption of the teeth:*

5-6 weeks : Temporary $I^1$ $I^2$ $I^3$, Temporary C, Temporary $G^2$ $G^3$ $G^4$.

4-5 months : Change of $I^1$ $I^2$, Eruption $G^4$.

5-5½ months : Change of $I^2$ $I^3$, C, $G^1$ $G^2$ $G^3$, Eruption $G^5$.

6-7 months : Eruption $G^6$.

1-2 years : Wearing down of trefoil on $I^1$.

2-3 years : Wearing down of trefoil on $I^2$.

4-5 years : Wearing down of trefoil on $I^3$.

Over 5 years, impossible to determine the age.

### g) Body Temperature, Pulse, and Respiration.

| | Fahrenheit | | Pulse beats in a minute | Respirations in a minute |
|---|---|---|---|---|
| | Temperature | Average | | |
| Horse ..... | 99.5-101.4 | 100.4 | 28-40 | 8-16 |
| Cow ..... | 100.4-102.2 | 101.4 | 40-60 | 10-30 |
| Sheep ..... | 102.2-104.9 | 103.4 | 70-80 | 12-20 |
| Swine ..... | 100.4-104 | 102.2 | 60-80 | 8-18 |
| Dog ..... | 99.5-102.2 | 100.8 | 70-120 | 10-30 |
| Cat ..... | 102.2-104 | 101.4 | 110-130 | 20-30 |
| Fowl ..... | 106.2-108.5 | 107.6 | 120-160 | 40-50 |

### h) Equivaients of Fahrenheit and Centigrade Temperatures.

To reduce Centigrade to Fahrenheit, multiply by 1.8 and add 32. To reduce Fahrenheit to Centigrade, subtract 32 and divide by 1.8.

**Table of Equivalents of Centigrade and Fahrenheit Thermometric Scales.**

| Cent. | Fahr. | Cent. | Fahr. | Cent. | Fahr. |
|---|---|---|---|---|---|
| ° | ° | ° | ° | ° | ° |
| 0 | 32.0 | 34 | 93.2 | 68 | 154.4 |
| +1 | 33.8 | 35 | 95.0 | 69 | 156.2 |
| 2 | 35.6 | 36 | 96.8 | 70 | 158.0 |
| 3 | 37.4 | 37 | 98.6 | 71 | 159.8 |
| 4 | 39.2 | 38 | 100.4 | 72 | 161.6 |
| 5 | 41.0 | 39 | 102.2 | 73 | 163.4 |
| 6 | 42.8 | 40 | 104.0 | 74 | 165.2 |
| 7 | 44.6 | 41 | 105.8 | 75 | 167.0 |
| 8 | 46.4 | 42 | 107.6 | 76 | 168.8 |
| 9 | 48.2 | 43 | 109.4 | 77 | 170.6 |
| 10 | 50.0 | 44 | 111.2 | 78 | 172.4 |
| 11 | 51.8 | 45 | 113.0 | 79 | 174.2 |
| 12 | 53.6 | 46 | 114.8 | 80 | 176.0 |
| 13 | 55.4 | 47 | 116.6 | 81 | 177.8 |
| 14 | 57.2 | 48 | 118.4 | 82 | 179.6 |
| 15 | 59.0 | 49 | 120.2 | 83 | 181.4 |
| 16 | 60.8 | 50 | 122.0 | 84 | 183.2 |
| 17 | 62.6 | 51 | 123.8 | 85 | 185.0 |
| 18 | 64.4 | 52 | 125.6 | 86 | 186.8 |
| 19 | 66.2 | 53 | 127.4 | 87 | 188.6 |
| 20 | 68.0 | 54 | 129.2 | 88 | 190.4 |
| 21 | 69.8 | 55 | 131.0 | 89 | 192.2 |
| 22 | 71.6 | 56 | 132.8 | 90 | 194.0 |
| 23 | 73.4 | 57 | 134.6 | 91 | 195.8 |
| 24 | 75.2 | 58 | 136.4 | 92 | 197.6 |
| 25 | 77.0 | 59 | 138.2 | 93 | 199.4 |
| 26 | 78.8 | 60 | 140.0 | 94 | 201.2 |
| 27 | 80.6 | 61 | 141.8 | 95 | 203.0 |
| 28 | 82.4 | 62 | 143.6 | 96 | 204.8 |
| 29 | 84.2 | 63 | 145.4 | 97 | 206.6 |
| 30 | 86.0 | 64 | 147.2 | 98 | 208.4 |
| 31 | 87.8 | 65 | 149.0 | 99 | 210.2 |
| 32 | 89.6 | 66 | 150.8 | 100 | 212.0 |
| 33 | 91.4 | 67 | 152.8 | | |

## 9. Veterinary Hygiene.

### Stable Construction.

**Site and Foundation.** Stables should be built on a slightly elevated site; they should not be in close contact with large buildings or banks since these obstruct the free circulation of air. Avoid close proximity to swamps and sluggish streams (excess of moisture). Dry, coarse, gravelly or sandy subsoil is a desirable material upon which to rest the foundations, as water passes readily through many foundation walls to the side walls keeping them permanently moist and cold. Clay soils should be thoroughly drained before receiving a foundation. The material for the construction of a foundation must be compact and water-proof (cement, hard-baked tile). The walls may be further protected from soil moisture by inclosing a layer of asphalt, or a heavy sheet of tar paper in the foundation wall near the top; additional protection is given by extending the asphalt over the outer and inner sides to protect against atmospheric moisture.

**Walls, Ceilings, Floors.** Stable walls should be constructed of porous material (non-conductor of heat and cold) to retain heat in winter and exclude it in summer. Such material is found in wood, air spaces, heavy building paper, tar-paper, dry sand, and tile blocks. The outer surface of the wall must be water-proof to exclude moisture (rain, snow, water-vapor): paint, glazed tile, hard cement plaster, tar-paper beneath clapboards. The inner surface of the wall must also be water-proof, have a smooth

surface, and be free from grooves or cracks: smooth white-washed boards, plaster-board, glazed tile or brick, hard cement plaster. Walls constructed entirely of cement or stone are too cold in winter, the material is too compact; they are, however, cool in summer. Stable walls must be water-proof on the outer and inner surfaces to prevent absorption of moisture; porous material between retains the heat and prevents condensation of moisture (sweating) on the inner surface.

**Ceilings** require the same smooth, water-proof, and warm construction as walls. Warmth may be provided by roughage stored above. There should be no permanent opening through the ceiling of a stable into a hay-loft above: dust from the roughage, damage to food from stable gases, interference with ventilation.

**Floors. Concrete** is one of the best available materials for floor construction. It must rest upon a firm subsoil, or a well-tamped layer of cinders or coarse gravel, broken brick or stone. Upon this base spread three inches of a mixture of 1 part cement, 3 parts coarse clean sand, and 5 finely broken stone, or gravel. Cover with a finishing coat one inch thick, made of 2 parts cement to 3 parts sand or crushed granite. While the surface is still soft it may be marked into four-inch squares by pressing into it three-fourths inch gas pipe; this prevents slipping, the grooves have no sharp angles, and they are easily cleaned. Floors upon which animals must remain permanently should be further provided with a softer and warmer covering: board slats and mats, boards, cork brick for cows. **Hard-baked tile bricks** cemented together make a floor that is warmer, less

slippery, and softer; they have not come into general use in this country. **Vitrified brick** firmly cemented together make an ideal floor. Hard-baked tile and vitrified brick are superior to cement, but are more expensive.

**Dimensions of Stables. Cubic feet of space** should be 500-1000 cu. ft. for each 1000 pounds of animal; the smaller space is better adapted to cold climates, or for stables provided with a very active system of ventilation. Not more than 50-75 large animals should be kept together in a stable. Where the units are larger it becomes difficult to exclude or suppress infectious diseases (tuberculosis). **Width of cow stables:** single-row stables should be about 18 feet wide, divided approximately as follows: feeding alley 5 feet, manger 1 foot 6 inches, curb for stanchion 4 inches, stall 4 feet 6 inches, gutter 1 foot 6 inches, milking alley 5 feet 2 inches. Double-row stables are made 32-36 feet wide. **Mangers:** the partition in front of the manger should reach to about the level of the cow's nose to prevent throwing food out on the feeding floor, the bottom of the manger should not be on a lower level than the feet of the cow, provide low partitions between each manger and a partition on the curb between the stall and manger to keep the feet of the cow out of the manger. The top of the mangers for horses should be about the height of the elbow to one-half the height of the body. **Stanchions** should be attached as close as possible to the curb, or the cattle may be tied with chains. **Stall space** for cows should not be longer than necessary for standing room, 15-20 sq. ft. per cow, 3-4 feet of width per cow. The floor of the stall should be of wood (plank, board mat of slats), or cork brick. Vitrified brick

or hard-baked tile are warmer than cement. Cement is less objectionable when it is perfectly dry (dry subsoil, water-proofing). Cement that rests on a moist base is always cold, and is very liable to be damp. **Stall partitions** should be lower at the flank than at the shoulder so that the cow can turn and not have to step in the gutter, ribs are often broken by lying against single pipe partitions when the post is too far from the gutter so that it comes in contact with the ribs instead of the flank. **Gutters** may be 12-15 inches wide by 10-15 inches deep, or 18 inches wide and 7 inches deep. The **height** of stables should be 8-10 feet, depending on the climate and the number of animals together.

**Temperature.** Sheep 40°-45° (lambing 50°-60°); cows 55°-65°; horses 60° (foals, suckling mares, and thoroughbreds 65°) Fahrenheit.

**Ventilation.** There are two systems of ventilation, the horizontal system and the vertical system. The **horizontal** system of ventilation in its simplest form consists in substituting muslin for windows on opposite sides of the stable. It requires frequent renewal as the pores in the cloth become clogged with filth, during a sleety storm they may become inactive through the formation of a film of ice. In many old stables this is the cheapest and most practical method of stable ventilation. **Vertical.** The stable must be tight (no open lofts, doors, or windows) or the system is inactive. Pure air enters the stable through intakes in the form of shafts 6-8 inches in diameter, starting on the outside near the ground, passing upward in the wall, and entering the stable in an upward direction near the ceiling. When the cows face in, extend the shafts in the floor or ceiling

to the middle of the stable so that the pure air enters near the heads of the cows. Provide one shaft every 10-12 feet on both sides with a damper for closing each shaft at will. Outtake shafts should be located at the greatest possible distance from intakes (center of the stables), pass straight up and end above the highest part of the roof. When cows face in, the lower end of the outtake shaft should open near the stable wall. Exits must be constructed of warm porous material (2 layers of boards and 1 layer of heavy building paper) and when possible enclosed in a mow of roughage. The top should be provided with a roof to keep out the storm, or better, a deflector to aid in suction. Two powers force the air through this shaft: 1. Heated air rising to cooler temperatures above, and 2. Suction by the outside currents of air, the wind. For a stable containing 10-12 large animals provide one shaft 12-14 inches in diameter. This shaft may be brought 6-12 inches below the ceiling when both powers of expulsion are utilized (moderate temperature and low wind), or to within about a foot of the floor when suction by the wind is sufficient (low temperature and high wind). Shafts that end at or near the ceiling should have a damper to close when the stable becomes too cool during cold high winds; those brought to the floor should have a damper in the side near the ceiling to open when the stable becomes too warm during moderate temperatures and a quiet atmosphere. In larger stables the exit shaft is increased to three feet for each 50 to 60 cows.

**Moisture** in stables is an index to the degree of impurity of the air. Frost or moisture on the walls indicates a relative moisture of 100% (poor ventila-

tion, or damp floors, or both). The per cent of moisture in a stable should not greatly exceed that of the outdoor atmosphere. The general average is 70-80 per cent. A cheap hygrometer is the simplest method of determining the per cent of moisture (Mitthof's Hygrometer, 3 inch diameter, Eimer & Amend, N. Y. City. Costs about $2.00).

**Light.** Provide a window surface of one-twelfth to one-thirteenth of the floor space, or about 4 sq. ft. per cow. All animals, especially horses, should be protected from the direct sunlight. In horse stables place the windows behind the stalls, or high enough in front to prevent the light falling directly in the face (8 feet).

**Stable Disinfection** depends on the destruction of the germs of disease that may be present in the stable itself, and on the removal and exclusion of carriers that may deposit infection in the stable: attendants in hog cholera; animals that react to the tuberculin or mallein test; fetus, afterbirth, and vaginal discharges in contagious abortion. Many old stables with open wood-work, cracks, and crevices cannot be thoroughly disinfected.

The first step in a complete disinfection of a stable consists in the removal of all loose dust and filth, followed by thorough cleansing with hot soap and water. Dirt must be removed from all cracks, crevices, and corners until the material of construction is fully exposed and clean. This requires sweeping, scrubbing, scraping, and tearing out of rotten or porous material especially wooden stable floors and mangers. In many cases the thoroughness of the cleansing process is of more importance than the selection of the disinfectant. Ordinary disinfection

does not penetrate a dried coat of manure, or woodwork that has become porous by decay.

Disinfection may be **partial**: frequent disinfection of floors to prevent disease, or destroy infection when complete segregation is impractical (contagious abortion, white scours). Such disinfection aids in the suppression of infection, but it is inferior to complete segregation and disinfection. Disinfection is **complete** when all exposed surfaces (floors, ceilings, walls, utensils, stanchions, etc.) are included. This method should be adopted whenever one expects to promptly suppress any contagious disease (tuberculosis, glanders, white scours, contagious abortion). Frequent partial disinfection is a useful procedure in any stable, and complete disinfection should be applied at least once a year in all stables.

The ease with which infection in a stable is destroyed is usually overestimated. Disinfectants should be applied under pressure in the form of a fine spray. Force pumps for this purpose are inexpensive and the application is more thorough than with a brush. Spray the surface to be covered until it is thoroughly soaked, do not spare the disinfectant. Wood surfaces should be covered from one to five times according to the smoothness of the surface, the frequency of disinfection in the stable, and the resistance of the infection. In outbreaks of acute infectious diseases the stalls of the sick should be disinfected at frequent intervals, especially the floors and mangers. The activity of a disinfectant depends on its germicidal power and its ability to penetrate or soak into materials used in stable construction.

**Sunlight** readily destroys germs when they are freely exposed to its rays; like all other disinfectants

it cannot reach organisms enclosed in filth; its efficiency is very much overestimated. Cleanliness and light in a stable are essential to health, and sunlight not only destroys infection within its reach, but emphasizes the presence of filth. It is a great aid to disinfection when a stable is let stand empty with the doors and windows open during the summer.

**Lime** (CaO) is a cheap and useful agent against the less resistant organisms: hog cholera, chicken cholera, anthrax bacilli, pus cocci. It is too weak for anthrax spores or tubercle bacilli. It is used in the form of whitewash applied from two to five times in the form of a spray at intervals of not less than two hours. Lime is also sprinkled on the floor where it destroys only those organisms with which it comes in direct contact. As a deodorant, and to emphasize the presence of filth it is highly useful. For this purpose it may be used in a much weaker solution (1:20). Stables should be whitewashed from two to four times a year. Whitewash is often combined with carbolic acid, but experiments made in the Bureau of Animal Industry show that the activity of carbolic acid is thereby reduced.

**Chlorinated lime** ("Chlorid of Lime") when fresh and dry is much stronger than lime, but too weak for anthrax spores or tubercle bacilli. It is used in water or whitewash in the proportion of 1:3-5. It leaves a persistent odor that is very objectionable around milch cows, it is also destructive to clothing.

**Carbolic acid** in a 3-5 per cent aqueous solution is widely used; it is not strong enough, however, for the resistant anthrax spores, or the blackleg organism. Pure carbolic acid (phenol) is also expensive, and crude carbolic acid alone is insoluble in water.

A 3 per cent solution of a mixture of one part volume of crude carbolic acid and ½-1 part volume crude sulphuric acid is readily soluble in water, strong enough to kill the resistant tubercle bacilli and anthrax spores, and is comparatively cheap (Fischer & Koske). The insoluble cresols of the crude carbolic acid are thus made available. Animals should not be returned to the stable until the vapor of carbolic acid has disappeared; this is especially true of milch cows.

**Creolin**, and its numerous substitutes, is active against most forms of bacteria when they are not enclosed in albumenous material; it is not strong enough for spores. It is used in a 2-5% solution.

**Liquor cresolis compositus** in a 2-5% solution is very efficient, its germicidal power being higher than either carbolic acid or creolin.

**Cresol**, from which creolin and liquor cresolis compositus are derived, is highly efficient when combined with sulphuric acid or soap to render it soluble in water. The experiments of Fischer & Koske show that a 3 per cent aqueous solution of one volume cresol and one-half volume crude sulphuric acid gives a very strong and inexpensive germicide.

**Corrosive sublimate** 1:1000 (one ounce to eight gallons) in a 1% aqueous solution of sodium chloride is among the stronger disinfectants. Care should be used in returning animals to the stable too soon after its use as it is very poisonous, especially to cattle. It corrodes metals and for this reason it should be prepared in wooden tubs and not applied to metal surfaces.

## 10. Clinical Diagnosis.

### A

### GENERAL EXAMINATION

**I. Anamnesis.** 1 Duration, 2 Symptoms, 3 Cause, 4 Number affected, 5 Previous treatment.

**II. Signalment.** 1 Species, 2 Sex, 3 Color, 4 Age, 5 Size, 6 Breed, 7 Use.

**III. Habitus.** 1 Attitude, 2 Condition, 3 Conformation, 4 Temperament.

**IV. Skin.** 1 Hair, 2 Sweat, 3 Color, 4 Condition, 5 Swellings, 6 Sensitiveness, 7 Lesions.

**V. Eye.** 1 Expression, 2 Discharges, 3 Color of conjunctiva, 4 Swelling of conjunctiva.

**VI. Fever.** 1 Temperature, 2 Chills, 3 Distribution of local heat, 4 Increase in pulse and respiration, 5 Appetite, 6 Mental depression, 7 Albumen, 8 Type —F. continua, remittens, intermittens, atypica.

**VII. Hypothermia.**

### B

### CIRCULATORY APPARATUS.

**I. Pulse.** 1 Frequency, 2 Rhythm—normal, irregular, intermittent, 3 Quality (size—full, empty, inequal, imperceptible; strength—strong, weak; hardness—hard, soft), trembling, thready, wiry, quick, sluggish, dicrotic.

**II. Veins.** 1 Permanent distension of the peripheral veins, 2 Jugular pulse—negative, positive.

**III. Heart.** 1 Impulse, 2 Percussion, 3 Sounds—increase, decrease, blending, bruits, rhythm, splashing pericardial sounds in traumatic pericarditis in cows.

## C

## RESPIRATORY APPARATUS.

**I. Respirations.** 1 Frequency, 2 Rhythm, 3 Intensity, 4 Type, 5 Sounds—wheezing, rattling, laryngeal, stenotic tones, bubbling, 6 Dyspnea—inspiratory, expiratory, mixed.

**II. Breath.** 1 Currents at the nostril, 2 Odor.

**III. Nasal Discharges.** 1 Quantity—slight, copious, unilateral, variable, 2 Color, 3 Consistency—serous, mucous, mucilaginous, flocculent, purulent, 4 Odor, 5 Admixture—fine and coarse foam, food particles, parasites.

**IV. Nasal Cavities.** 1 Asymmetry of the face, 2 Lesions of the nose and lips, 3 Mucous membranes—discolorations (hyperemia, hemorrhage), swellings, wounds, nodules, ulcers, cicatrices.

**V. Submaxillary Lymph Glands.** 1 Swelling—unilateral, bilateral, 2 Surface—smooth, rough, 3 Consistency, 4 Heat and pain, 5 Movability.

**VI. Cough.** 1 Induced, 2 Frequency—occasional, frequent, paroxysmal, 3 Pain, 4 Force—strong, weak, 5 Duration—short, long, 6 Depth, 7 Sound—loud, clear, low, dull, loose, moist, dry, 8 Expectoration.

**VII. Larynx.** 1 Palpation—heat, pain, scars, flattening of the larynx and trachea, 2 Auscultation—normal expiratory tone, abnormal (whistling, rattling).

**VIII. Percussion of the Thorax.** 1 Area, 2 Resonance, 3 Tympany, 4 Dullness.

**IX. Auscultation.** 1 Vesicular murmur—exaggerated, feeble, absent, 2 Bronchial tones, 3 Vague tones, 4 Rales—moist (fine and coarse crepitant, fine and coarse bubbling), dry (sibilant—fine, sonorous—coarse). 5 Pleuritic friction tones.

**X. Heaves.** Lungs or heart. Exercise, rest (character of respirations, foamy nasal discharge, cough).

## D

## DIGESTIVE APPARATUS.

**I. Appetite for Food and Drink.** 1 Perverted appetite, 2 Manner of taking food and drink, 3 Mastication, 4 Deglutition.

**II. Buccal Cavity.** 1 Temperature, 2 Amount of saliva, 3 Odor, 4 Lesions on mucous membranes—petechiae, nodules, pustules, ulcers (contagious, erosions, poisons), blisters, wounds, 5 Foreign bodies, 6 Teeth—points, projections, caries, loose.

**III. Throat and Esophagus.** 1 Inspection, 2 Palpation—pain, swellings, consistency, foreign bodies in the esophagus.

**IV. Rumination.** 1 Frequency of eructation, 2 Number of mastications per cud.

**V. Vomiting.** Dogs, swine, ruminants, horse.

**VI. Abdomen.** 1 Inspection—abnormal distension and reduction, 2 Palpation—consistency, pain, traumatic gastritis and pericarditis, peristalsis, contractions of the rumen in cows, 3 Rectal examination—impaction of colon, floating colon, cecum, and ileum, distension of stomach, incarceration (internal inguinal ring in stallions), gut-tie, invagination, torsion,

enteroliths, tumors, enlarged sublumbar lymph glands in traumatic gastritis and peritonitis in cows, 4 Percussion—clear, tympanitic, dull, 5 Auscultation —kinds of sounds, increase, decrease, paralysis.

**VII. Evacuations.** 1 Frequency—normal, constipation, diarrhea, 2 Volume, 3 Consistency and form, 4 Color, 5 Covering, 6 Odor, 7 Composition—fine and coarse food particles, foreign bodies, exudates, parasites.

## E

## URINARY APPARATUS.

**I. Manner of Voiding Urine.** 1 Frequency—abnormally frequent (polyuria, stranguria), 2 Painful (dysuria), 3 Retention (ischuria) from obstruction or paralysis, 4 Incontinence.

**II. Examination of the Urine.** 1 Quantity, 2 Color, 3 Transparency—normal (turbid), clear, very turbid, 4 Consistency, 5 Specific gravity, 6 Reaction, 7 Albumen increased—diseases of kidney, blood, nerves, diminished blood pressure, fever, 8 Albumoses (internal abscess), 9 Hemoglobinuria—hematogenic, myogenic, 10 Hematuria, 11 Indican (indigestion), 12 Choleuria, 13 Grape Sugar, 14 Lactose.

**III. Microscopic.** 1 Crystals—carbonate of lime, oxalates, urates, hippuric acid, phosphates, sulphates, 2 Organic matter—epithelium, white and red blood cells, casts, bacteria.

**IV. Examination of the Urinary Organs.** 1 Palpation—kidneys, ureters (catheter in mare), bladder, urethra.

## F

## SEXUAL APPARATUS.

**I. Increased Sexual Desire.** 1 Nymphomania, 2 Satyriasis.

**II. Female Organs.** 1 Vulva—swelling, retraction, discharges, 2 Vagina, 3 Udder—quantity and quality of milk, teats (blisters, fistulae, nodules in teat canal, size and direction of stream, character of milk), quarters (size, consistency, sensitiveness), 4 Ovaries, 5 Horns, 6 Uterus.

**III. Male Organs.** 1 Penis—vesicles, ulcers, pustules, scars, tumors.

## G

## NERVOUS SYSTEM.

**I. Psychic Functions.** 1 Mental excitement—cerebritis, rabies, tubercular meningitis, 2 Mental depression—dullness, drowsiness, sopor, coma, 3 Vertigo.

**II. Sensibility.** 1 Hypesthesia—finger in the ear, flip the nose, step on the coronet, pin pricks, general behavior, 2 Anesthesia, 3 Hyperesthesia—first stage of irritation or inflammation of any part of the brain or cord.

**III. Motility.** 1 Spasm—clonic, tonic, trembling, convulsions, orthotonus, opisthotonus, trismus, sawhorse attitude, reflex spasms, 2 Involuntary movements, 3 Disturbance of the muscular sense, 4 Paralysis—cerebral, spinal, peripheral, 5 Reflexes—brain, spine.

H

## BODY MOVEMENTS.

I. Blind Staggers (dummies). Development, pulse, appetite, psychic condition (expression, attitude, movements of the head, use of the ears and eyes), sensibility, motility.

IV. Epilepsy and Vertigo. V. Balkiness. VI. Cribbing. VII. Weaving.

I

## LYMPHATIC GLANDS.

1 Submaxillary, 2 Subpartoid lymph glands, 3 Retro-pharyngeal (anterior, posterior—atlantal), 4 Prescapular, 5 Percrural, 6 Inguinal (horse), 7 Supramammary, 8 Mesenteric, lumbar, and sacral,—per rectum.

J

Eye. 1 Expression, 2 Lids: partial closure swelling, angularity, discharges, loss of hair at the inner angle. Conjunctiva: color, swelling, membrana nictitans. 3 Lachrymal duct. 4 Bulb: atrophy (soft on palpation following periodic ophthalmia). 5 Cornea: turbidity, bulging, flat. 6 Anterior chamber: fibrinous exudates, filaria papillosa. 7 Iris and Pupil: size, movability, color, adhesions. 8 Lens: turbidity (ophthalmoscope, dilate the pupil with atropin when in doubt). 9 Vitreous body: turbidities (ophthalmoscope or retinascope). 10 Retina. 11 Test for blindness by leading against some object.

## K

**Head and Neck.** Examine for wounds, fistulae and swellings: face, base of ear, parotid region, poll, thyroids, side of neck, top of neck (sitfast from collar bruise).

## L

**Thorax.** 1 Breast: wounds, fistula, hematoma, swelling, tumor, pain. 2 Sides: phlegmon, fracture and fistula of ribs, tumor, stiffness (pleuritis). 3 Withers: abrasion, eczema, wounds, fistula, abscess, hematoma, pain, movability of the skin.

**Abdomen.** Wounds, Swellings: edema, phlegmon, hernia (scrotal, ventral, inguinal, umbilical), hematoma, abscess.

## M

### ANTERIOR LIMB.

**I. Shoulder.** Swinging-leg lameness (muscle), mixed lameness (joint), unable to support weight (radial paralysis, suprascapular paralysis). Thrombosis of axillary arteries, contusion, phlegmon, abscess, hematoma, omarthritis, bursitis intertubercularis, fracture, atrophy (inactivity, general, injury, azoturia), heat and pain.

**II. Carpus.** Lameness in supporting-leg, swinging-leg, or mixed. Contracture, phlegmon, hematoma, abscess, precarpal bursitis, tendovaginitis (extensors, flexors), exostosis (inner surface), chronic arthritis (uniform enlargement); extend, flex, abduct, and adduct the joint to determine pain and motility.

**III. Metacarpus and tendons.** Sudden supporting-leg lameness, flexion of the fetlock joint. Inspect

for contracture (upright fetlock, stub hoof), diffuse swellings (phlegmon), circumscribed swellings (tendinitis, tendon rupture, tendon callus, tendovaginitis), and scars. Palpate with the foot raised and the tendons flexed, each tendon its entire length, suspensory ligament is often diseased at the lower third (branches of the superior sesamoidean ligament), deep flexor is often diseased at the upper third (check ligament), note heat, pain, swelling, adhesions, and splints.

**IV. Fetlock.** Inspect, palpate, rotate, extend, and flex. Note distortion, contusion, arthritis, sesamoiditis, fracture, scratches, wounds, fistulae, phlegmons, tendovaginitis, heat and pain.

**V. Coronet.** Sprains, arthritis, ringbone, fracture, subcoronary and parachondral phlegmon, abscess, calk wounds, scars, fistulae, circular swellings at the coronet (sprains, circular ringbone, serous and suppurative arthritis, edema), circumscribed swellings (ringbone, subcoronary and parachondral phlegmon, quittor). Depression at the coronet in sinking of the third phalanx. Heat and pain.

**VI. Hoof.** Inspection, palpation, percussion, mensuration, pulsation of the plantar arteries, cocain or alypin. 1 Position of the limbs (toe-wide, toe-narrow, etc.), foot-axis, form of hoof (regular, acute-angled, obtuse-angled), atrophy, contraction. 2 Shoe: unequal wear (toe in navicular disease and spavin), length, width, nails, weight. 3 Wall: smooth or rough, clefts, cracks, rings (normal, pathological), convex, concave, nail holes. 4 Sole: flat, white line, loose or hollow wall, corns, clefts. 5 Frog: atrophy, asymmetry, thrush, canker, wounds. 6 Bars: straight and prominent, buttress not too long, open cleft be-

tween the bars and the frog. 7 Bulbs of the heel: wounds, contusions, swelling, atrophy, asymmetry, heat and pain. 8 Percuss to locate pododermatitis (wall, sole, frog). 9 Test for navicular disease: percussion over frog, sole, quarters; extension of joint (wedge test); flexion of joint (thumb test); rotation. 10 Ossification of lateral cartilages.

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## PELVIS AND POSTERIOR LIMB.

**I. Lumbar and sacral region.** Inspection, palpation, movements, rectal and vaginal examination. Bilateral lameness: spinal cord, muscles, fracture of the vertebrae or pelvis, thrombosis at the base of the iliac arteries.

**II. Hip.** Unilateral swinging-leg lameness: coxitis, pelvic fracture, injury to muscles or nerves, abduction in paralysis of the obturator. Swellings: contusion, phlegmon, rupture, hematoma, fracture, general and partial atrophy; heat and pain.

**III. Stifle.** Position of limb: flexed in single gonitis, shifting weight in double gonitis, unable to support weight in degenerative myositis of azoturia, unable to flex in stifle cramp. Luxation. Swellings: phlegmon, gonitis (inner surface), bursitis (lower anterior surface), atrophy (degenerative, inactivity), fractures of the tibia; heat and pain.

**IV. Tarsal region.** Inspection, palpation, flexion test, movements, wear of shoe. Spavin, lateral exostoses, curb, capped hock, chronic serous arthritis (bog spavin), deforming arthritis, serous tendovaginitis of perforans (thoroughpin), fractures, stringhalt. Swellings: edema, phlegmon, tendovaginitis; heat and pain.

**Physical Examination Chart for Cows.**

**Owner** ..... **Date**..... **Time**.....
**Address** .....
**Veterinarian** ..... **Address** .....
**Breed** ..... **Sex** ..... **Color** .... **Age** .... **Wt.** ....
**Use** ..... **Registration No.** .... **Tag No.**...
**Name** .....
**Previous owners and examinations** .....
**Feed and feeding** .....
**Stable** ..... **No. of animals in herd** .....

**Gen. Exam. Attitude**..... **Condition** .....
**Conformation** ..... **Hair** .....
**Condition of Skin** ..... **Temp.** ..... **Pulse** .....

**Resp. Apparatus. History of Cough** .....
**Respirations: Frequency** .... **Depth** .... **Type** ....
**Dyspnea** ..... **Cough** .....
**Percussion** .....
**Auscultation: Vesicular murmur** .....
**Bronchial tones** .....
**Vague tones** .....
**Rales** .....

**Heart. Impulse** .... **Percussion** .... **Sounds** ....

**Digestive Tract. Appetite** .....
**Tympany, past or present** .....
**Contractions of the rumen** .....
**Peristaltic sounds** .....
**Size of abdomen** .....
**Feces: Volume** ..... **Frequency** .....
**Consistency** .....

**Lymph Glands** .....
Atlantal. Rt. .....Lft.....
Subparotid. Rt. .....Lft.....
Submaxillary. Rt. .....Lft.....
Retropharyngeal. Rt. .....Lft.....
Prescapular. Rt. .....Lft.....
Precrural. Rt. .....Lft.....
Supramammary. Rt. .....Lft.....
Sublumbar and subsacral .....
Mesenteric .....
Date of pregnancy ..... Date of calving .....

**Udder** .....
Lft. front .....
Lft. hind .....
Rt. front .....
Rt. hind .....
Special Examination (microscopic, animal inoculations, catalytic test, etc.):

**Milk** .....

**Uterine and vaginal discharges** .....

**Saliva** .....

Remarks.

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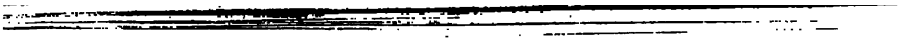
## 11. Shipment of Tissues for Laboratory Diagnosis.

For a bacteriological examination, or examination of gross specimens, tissues must reach the laboratory in a fresh state. One of the best methods is to pack them in ice in large pails (tobacco or candy pails). For a histological examination tissues may be cut in one-half inch to one inch cubes and shipped in a 10% formalin solution, or in 95% alcohol.

Blood for anthrax examination may be sent in a dried condition, a few drops on a piece of paper, or the ear may be cut off and forwarded. Blood for the agglutination test or fixation of the complement test for glanders: one to two ounces in a bottle in a mailing case or wooden box, time required for examination 3 days.

A blood count to determine the number of corpuscles requires special equipment for taking the sample (haemato-cytometer). A blood count to determine the relative number of leucocytes (differential count) can be made when blood oozing from a freshly made wound is spread in a thin even smear on a glass slide and allowed to dry.

For rabies examination forward the entire head packed in ice, or the intact brain in glycerin.



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